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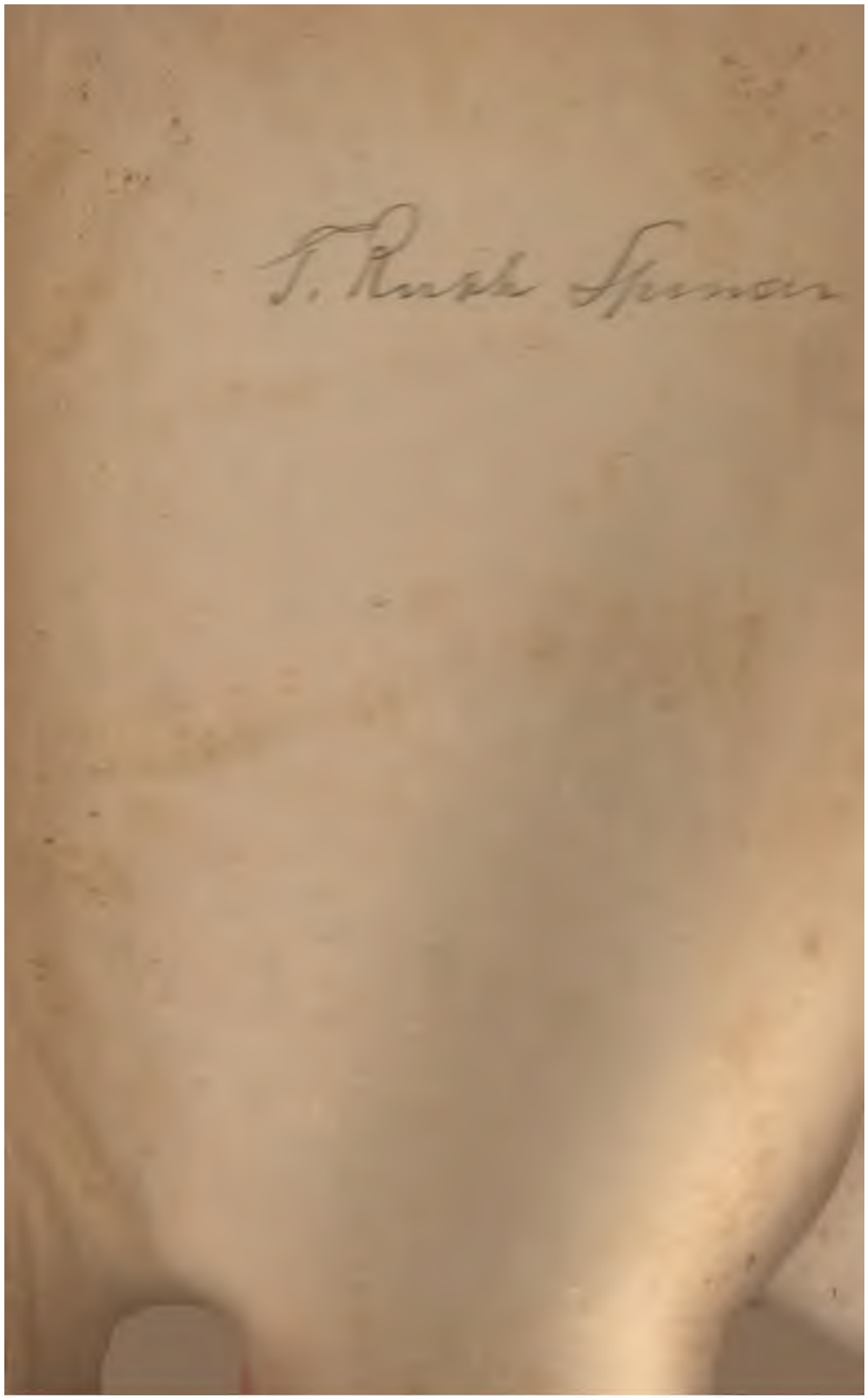
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POSITIVE MEDICAL AGENTS:

BEING A TREATISE ON THE

NEW

ALKALOID, RESINOID,

AND

CONCENTRATED PREPARATIONS

OF

INDIGENOUS AND FOREIGN MEDICAL PLANTS.

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Dedication:

The following pages, which have been prepared with care, and an earnest desire to promote positive Medical Science, are respectfully dedicated to all who are endeavoring to discharge the responsible duties of the con=
=scientious physician, by their
Obedient Servant,
The Author.

A LETTER.

To The Medical Profession:

The vastly improved condition of the human mind; the facilities for scattering information; the development of mechanical science, and the more practical turn of human acquirements during the last half century, have all tended to fit the American public for the ready adoption of those theories which *promise* to accomplish most in a given time. Everything has been accelerated; the human mind itself, has been forced, like a hot-house plant, into premature maturity. Whatever is accomplished, is done under the high pressure arterial excitement of a day. There must be no loss of time; the world is in motion, and we must change or be changed. But men of science, while they have occasionally been urged on, amid the hurried crowd of progressionists everywhere surrounding them, have generally quietly delved in the mines of thought in search of keys with which to unlock nature's El Dorado of truth. We have to deal with man in all his capa-

cities and relations, trying to amend his errors, by restoring him to life and health. Others seek to multiply the means by which he may gratify every wish. The unrestrained appetites and passions, thus tempted to evil and to excess, lay broad and deep the foundations of the mighty ocean of disease, which we are called on to combat. When we look at the age and respectability of our profession; when we contemplate the centuries of midnight thought, which the glory of our art has called forth; when we count the host of eminent men, who have worked out their long lives in trying to solve the problem of disease, and to develop our resources for combating its ravages—we must be deeply impressed with the sacredness of the mission of a science which neither mechanical ingenuity, love of gain, winning and transcendental theories, nor the wild and enthusiastic ebulitions of the progressive mind, have been able to cause to falter nor deviate from those eternal principles of truth and reason which have been always claimed as the beacon-lights of legitimate science.

Medical science, like Christianity, is one and indivisible. Truth is truth, wherever found, or by whomsoever taught. Creeds and parties may spring up like mushrooms in the dewy night of midsummer, but they must vanish like the aurora borealis, before they have made an impression on the world's understanding. What is true in the tenets of one creed, is true in the tenets of all creeds. Truth must harmonize with itself, and with nature. Let us reason together;—from all nations a cry comes up, What is truth? It is the question of the day, has been the question of all time past, and must

be the question for all coming time. We may not tell who are the positive possessors of truth, but we can assert that let who will, or may possess it, it is truth, harmonious and unchangeable; for truth is truth, as much as granite is granite, and marble is marble, and gold is gold, the world over, whether in the mind of the slave or the philosopher; whether associated with kindred truth, or surrounded by exploded error, it remains unchanged, and unchangeable, whether we be able to distinguish it or not. It may not have been discovered, or it may have been lost, but like its eternal Author, it has always existed.

But among the conflicting assertions and pretensions of men, how shall we determine what is the truth? In the vast Babel of human systems, how shall we find the true vernacular? How shall we know what is true and what is false—where is the standard? Is it the unanimous consent of all who have attained high positions in the world of science and art? Does it reside in one mind, or in an association of minds? Time has falsified many convictions which we once cherished as truth. What and where was truth during the early ages of mankind? Was it hidden in the pillars of Seth, or buried with the occult sciences in the pyramids, or the astrological legends of Babylon—or veiled in the mysterious hieroglyphs of the Thaumaturgists—or traced on the astronomical tables—or in the Vedas and Shasters of India—or closeted in the alcoves of Alexandria, in the ancient character of Confucius; or was it found in the philosophies of Greece and Rome; the oracles of Apollo; in the chair of St. Peter; the conclave of cardinals, or some noted council of learned doctors?

Tell us where was God, and we will tell you where truth had its abiding place. God is the fountain of all truths, and he has woven them into all nature. Men of science try to read from the face of nature, the mysterious histories of truths, which, while many, are yet one and indivisible. The greatest of these truths refer to man, whose nature and capabilities, whose powers and frailties, furnish subjects of thought for the medical man. We all aim at the same great ends; all labor to understand man's mysterious organism, and the laws which preside over it in health and in disease. We all want to lengthen out the span of life to three-score and ten. Then, why should we hate—persecute—misrepresent? What is discovered by one man of science, is for the benefit of, and belongs to, the whole race.

We have labored with this impression, and under the solemn conviction, that after doing all we could to assist in developing the glorious art of curing the sick, we could do no more than discharge our duty. We claim no credit in endeavoring to bring the results of our labors and experience before the profession, believing, as we do, that knowledge is common property. What we have done, is only a little of what must ultimately be accomplished: with each succeeding edition of this work, we hope, not only to give additional descriptions of active concentrated remedies: but the processes of obtaining these concentrated articles, which have been crowded out of this edition, for two reasons:—1st, we wish the profession to test the value of these medicines, and 2d, for want of space in the limits assigned to the first edition. We beg to have it distinctly understood, that we make no pretensions above others of our pro-

fession, and should not, at present, have thought of publishing this work, had not the demand for information relative to the agents prepared at the American Chemical Institute, demanded some work of the kind. In its preparation we have been as careful as possible, under the circumstances; but there may be typographical and minor errors which have escaped our notice. We will be under especial obligations to physicians who will communicate to the proprietors of the American Chemical Institute, their experience with the agents of which the following pages treat.

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PART I.

GENERAL CONSIDERATIONS.

CHAPTER I.

THIS work proposes to treat of the positive principles of medicinal value, contained in our vegetable materia medica. This, the writer hopes to do in a spirit of candor and fairness; it being his object to introduce to the notice of the profession, only those active, concentrated preparations, whose action is constant, and whose therapuetic value is positive. It is not proposed to speculate on the *possible* applications of these agents, but to embody, in this work, all that is *known*, and which will tend, when known to others, to place them properly before the profession. Whoever writes a medical book, should first know that he is prepared to impart, to his professional brethren, information which will, when used by them, benefit the community at large. Our professional associations have enabled us to investigate the subject upon which we propose to write, under advantages enjoyed by few, and, if we shall be enabled to impart to others what deeply interested us, when studying the value of the concentrated vegetable preparations, the labor of preparing the following pages will be devoted to a good cause, and we shall feel that our duty has been, at least, partially discharged.

Christian humanity, as well as scientific integrity, ought to cherish any scheme, which has for its object the elevation and perfection of the science of medicine. It is every man's duty to do his neighbor all the good he can, and as little harm as possible; so it is every physician's duty to relieve the sick, and teach them how to avoid disease. The mere administration of

medicines by the physician, does not release him from further responsibilities to his fellow citizens, but to the utmost of his ability he must *cure* them. . It is presumed that every one who assumes the responsibilities of caring for the public health, is actuated by motives of benevolence and integrity of purpose; and, in proportion as such is the case, will there be manifested a warm interest in whatever tends to enable the practitioner to most surely do that for his patients, which the exigencies of the case demand. It would be very difficult for those who have not practiced medicine, to comprehend how much a conscientious physician suffers, in consequence of the uncertain action of the preparations which he is compelled to dispense. In all ages, this annoying circumstance has engaged the attention of the more philosophical members of the profession. Chemical analysis and experiment have crowned the labors of investigators with much more success than could have been expected, by those who knew the disadvantages and obstacles which had to be first surmounted. When we look at the nature of the physician's mission among men, and understand the character of the scenes which constantly bear as powerful moral incentives on his conduct, we shall have, if we, ourselves, possess correct ideas, a very exalted opinion of professional worth, and honest investigation.

Since the writer first entered the ranks of the healing art, or became one of those who practice it, he has heard severe denunciations directed against the medical profession; and it is painful to state, that physicians have sometimes joined in the disgraceful tirade against the integrity of motives, by which their professional brothers were actuated, in rendering services to the sick. As for our own part, we are heartily tired of such slanderous imputations. Of course, there may be rare instances where men do *not* act from proper motives; but we speak of the great mass, and contend, that physicians alone are competent to decide upon the purity of the motives by which the profession is actuated. Very few of our people, even of the more intelligent sort, know the extent of study, close application, and range of learning that is necessary to complete the education of the

really competent physician. When we think of the preciousness of life and health, the carelessness of the public, or the prevailing ignorance of the laws of health, and the best means of promoting longevity, we cannot but be impressed with the fact, that the importance of the physician's mission is too often underrated, except, perhaps, when he has been enabled, by skillfully directing his agents, to arrest a disease which bid fair to prove fatal—and, thus, by arousing our gratitude, secure for himself a proper acknowledgment of the value of his services. In this utilitarian age, many seem to think the physician, like themselves, has been actuated in the adoption of his profession, entirely by motives of selfishness; but our experience—and, from our extensive intercourse with physicians, this has not been limited—leads us to a different conclusion. We believe the science of the healing art to be founded in the purest benevolence. Indeed it could scarcely be otherwise, for there is nothing so alluring, in the constant contact with pain and suffering, as to hold out any inducements to the devotee to medical science, except the pleasure he experiences in doing good to his fellows —dissippating pain, and setting up again, in the system, the reign of health. Every young man who has the least observation, must be, before he begins the study of medicine, converversant with the difficulties which he must experience in rising to eminence in his profession—for, while other professional men display their talent and skill before the scrutinizing public, he exercises his art, exhibits his competency only in the retirement of the invalid chamber. Indeed, every consideration of this subject, must furnish fresh evidence of the zeal which physicians display in caring for the sick, and refute, as a base slander on private and professional character, those unjust and unkind imputations which we sometimes—nay, but too often—hear escaping the public mouth-piece.

Our own observation is conclusive, to us at least, that there are few physicians (we mean such as are entitled to the appellation) who are indifferent to the improvements and discoveries which are being made in the science of medicine. Medicine, like other sciences, cannot yet boast of perfection. Physicians

are well aware of this fact, and, hence, it is quite difficult to find a practitioner, who is not constantly trying to fathom, or develop the laws which govern the phenomena that he every day sees. This general reaching after causes, accounts for the numerous sects or parties in the profession. These all aim to accomplish the same thing, viz: to learn the surest, safest, and most speedy way of curing diseased humanity. Sectarianism in the medical profession arises from the conscientious scruples of practitioners, the whole of which is founded in a sense of abstract benevolence. It is quite true that when a physician is told that he has been, all the time he has practiced his art, doing his patients more harm than good, his sense of just motives and integrity of purpose revolts at the admission of the fact, if fact it be; yet, if he is a learned man, with large conception of truth and right, he has only to be convinced of his error, to abandon it. Unfortunately, however, those who make discoveries, too generally denounce the opinions of others, and teach in a style so dogmatic, that they tend rather to retard than advance the march of scientific progression.

To render this subject quite plain, we have only to examine briefly, general and special therapeutics. Two thousand years ago, physicians were as tenacious of their opinions as at present, if, indeed, not more so; because as the mind is more enlarged, and is better informed on special topics, one learns to distrust theories which are not clearly based on facts. So many theories to account for the therapeutic action of agents have been exploded, that physicians receive, with extreme caution, the speculations of any person, and justly enough demand the facts and experiments upon which the theory is based to be exhibited for their inspection. This, we say, is proper and ought not to be objectionable, indeed is not, to those who really desire to increase our positive knowledge of the agents of cure, and the laws by which they exert their therapeutic influence, when taken into the system. It is not our province to write, at this time, a work on general therapeutics, but, as we are to treat of new remedies, and concentrated forms of old remedies, we shall be compelled to refer occasionally to certain great laws

which are well established, in order to make our positions in regard to the therapeutic action of special agents clear and consistent with the truths of science.

Unless it can be shown that the human constitution has undergone changes as the race has grown older, it may be asserted with propriety that medicines affect the human system in this age, exactly as they did at former periods. This proposition needs some modification; for, though Senna has, at all times, been a cathartic, it is questionable whether the modern constitution reacts under its influence just as it did centuries ago. If our physiologists are not mistaken as to the influence of the temperaments, and their modifications in different ages, it would seem that a careful study of the temperaments is necessary to enable us to appreciate the general principles of therapeutics. It is certain that, as the mental portion of our constitution has been cultivated, so, in the same proportion, has the physical organization been allowed to degenerate, until all can and must see we cannot now resist disease as did our ancestors. Nor will the modern system bear the heroic treatment of the ancients. These changes are to be referred to our changed habits of life, and greater activity of the whole nervous apparatus. The consideration of all those circumstances which modify the action of medicines, constitutes an important and interesting feature in the science of general therapeutics. It is to be greatly lamented that so few study these modifying conditions, and yet so persistently cling to the ancient custom of heroic medication—treating symptoms, without sufficiently inquiring into the causes which are operating in the system, with vigor enough to produce the symptoms which become the alphabet of pathological conditions. All the parts of medical science are so blended that it is rather difficult to treat of one branch without drawing materially upon the others. As we shall be compelled to frequently refer to physicians, it may not be inappropriate to offer a few explanatory remarks concerning them and their science at this place. A physician is he who endeavors to understand the functions of this complex organism, and to relieve it of pain and disease, when it is not in a physiological

condition—whose knowledge of anatomy and physiology enables him to comprehend the extent of a pathological condition; to perceive the therapeutic indications, and whose knowledge of the materia medica enables him to substitute a healthy for a diseased system. And he is the best, most skillful and trustworthy physician, who loses fewest patients in practice,—who, knowing the frailties of the flesh, ministers in kindness to us, whether appreciated or not, and whose sense of correct motives is so predominant, that he will treat with indifference every remark which might tend to destroy the equanimity of his mind and judgment, thus lessening the value of his opinions. We do not believe that the most *learned* physicians are necessarily the most skillful practitioners. Indeed we know that such is by no means the case—and we account for the fact by supposing that no amount of learning can compensate the deficiency which attaches itself to a man of mere theory, who has had no experience. A physician may be enabled to analyse any agent in the materia medica, aye, even to determine the proximate principles which enter into its composition, yet with all his knowledge of physiology and general therapeutics, he will be but little conversant with the real therapeutic action of special agents, unless he shall stand by the bedside of his patients, and there observe for himself those minor facts in medicine which are all important to the successful practitioner. Even more, some physicians, no matter how extended their opportunities, nor how profound their learning, seem never able to read the symptoms of disease, or if they do, are unable to adopt those means by which alone the disease may be broken up. There are *theoretical* physicians, and there are *practical* physicians. Teachers, we fear, are too often to be classed with the former, and practitioners too often hold in contempt the mere pratings of theory. We do not feel disposed to place our lives in the hands of a man who has had little or no practice in his art; nor are we willing to trust ourselves to the chance practice of one who makes no pretensions to a knowledge of the theory of medication. Whatever takes place in this world of causes and effect, is determined by certain precise laws; and

whoever understands those which preside over the actions of medicines, and has made himself familiar with the phenomena of effects, so as to recognise the operating causes—who has a correct knowledge of physiology and pathology, has very nearly found the philosopher's stone of the healing art. If, under such circumstances, a physician is an unsuccessful practitioner, and no adverse conditions pertain to his business, such as the employment of impure or inert agents, we may safely conclude that the defect is in his mental constitution, and that physic is not his province. So much for our opinions of the science of medicine and those who practice the art.

Nineteen-twentieths of the physicians in America, would, most probably, admit the justness of our remarks; and, in truth, have painted some similar picture, as their *beau ideal* of that standard by which medical men ought to measure their motives. A large part of the non-medical community will, however, contend that our picture is a freak of the imagination, drawn to please ourselves, and that it is as new to us as to themselves. It is not a reason that such is the case, however, for though all do not see motives in the same light, and many judge of others by themselves, yet does every phase of the physician's mission clearly prove that when he departs from our standard, the fault is with those who trammel him, and oblige him to do that to please others, which his own better judgment condemns.

In a work of this character, no one would expect us to go into a special consideration of all the agents used by either the ancients or moderns. Indeed were we merely to catalogue them, the space we have set apart for general remarks would be pretty well occupied; but we can treat briefly, in a general way, of both, so as to convey to the reader a clear idea of the advantages enjoyed by the modern over the ancient physician, and to enable us to appreciate the recent improvements of the materia medica. It is very certain that many modern doctrines originated with the ancients, though modern discoverers are not particularly anxious, one would think, to acknowledge their indebtedness to the first cultivators of medicine. As we desire to make no improper impressions on our readers, we may be

excused for saying, that the sacerdotal incantations of the early physicians bear a positive relation to the modern doctrine of Psychological Medications, as at present taught in England, and pretty generally admitted in this country. Mesmerism, Hydropathy, Homeopathy, &c., may be traced far back, and perhaps were all the speculations of the ancients, on medical theories made public at the present day, discoverers—really such, and pretenders—would rapidly decrease in number. We honor discoverers—men who stem the tide of opposition, and bless mankind by the result of their labors; but for those whose highest ambition seems to be to associate their names with regenerated ideas or theories, which they claim as discoveries, original and their own, we admit that we do not entertain the highest opinion.

The ancients, knowing little of botany as a science, were unable to describe and transmit to our times the knowledge which they possessed of the vegetable materia medica—and we think it reasonable to suppose that most of their remedies were vegetable. From the fact of their ignorance of botany, it would be only natural to suppose that their classification was equally as deficient. It is certain that other agents, besides those derived from the vegetable kingdom were used, but the proportion was so small that no notice need be here made of the superstitious compounds with which the Æsculapians worked wonders. As we shall introduce a paragraph on Psychology, or what is more appropriately called Psychological Medication, we need not now offer any theory, nor bring forward any facts to account for the therapeutic influence exerted over the system by Psychological agents. It requires no stretch of the imagination to reconcile the declaration we make, in asserting that the ancients learned the medicinal value of plants, in almost every case, by the empiric use of infusions, or teas. It is highly probable that the agents employed were of the simplest kind, and few in number. Even in comparatively modern times, this remark would hold good, for it is a notorious fact that the pharmacopias of the middle ages are not crowded with a great number of curative agents. Many of them are now considered quite

valueless, or used for purposes very different from those for which they were used by the earlier physicians. Some of the most reliable agents in the materia medica were introduced at a very early day, and not only were they well described, but many of their more obscure therapeutic virtues were pointed out.

But it was not until the time of Linnæs that the great extent of resources offered by the vegetable kingdom, claimed from physicians and chemists the consideration which its importance demanded. At present, no one pretends to be able to number the agents of cure which a wise Creator has furnished in the vegetable world. The investigator of the present day enjoys advantages over the early laborer, for we not only have ancient and modern experience, but the positive tests of chemistry, to guide us rightly in the path of discovery. It is true that we have, as before indicated, very many agents, at present in high repute, which have been in use thousands of years, and yet we know comparatively little of them, chemically considered. So, too, we have agents which were discarded as worthless and inert, by the early physicians, but which are now known to possess powerful and important medical properties. Again, we have many agents which have been only recently introduced to the notice of the practitioner. To form a proper acquaintance with all these agents, is no light task, and we shall not ask so much of our readers.

The physician of extensive practice, will seldom use one-third of the really important remedies which have been already discovered, and which constitute, very likely, only a small proportion of the great variety found in every latitude, and it is our intention to select from those in common use, the more important for illustrating the subject before us; but before entering on a consideration of the subject proper, we shall ask the attention of the intelligent reader to a few considerations found in the next chapter.

CHAPTER II.

It is the object of true medical science to render the art of prescribing as positive as possible, and among the first considerations to be noticed in establishing this, is to comprehend the circumstances which modify the action of medicines. We shall endeavor to *assume* nothing, but treat candidly of the *facts* appropriate to the illustration of our subject. In prescribing, we are compelled to regard as a modifying circumstance, the AGE of the patient to whom we are about administering to. The three periods of infancy, manhood, and old age, may be briefly noticed. In children, the nervous system is peculiarly active, and the impressibility, consequent upon this activity, makes it necessary to be exceedingly cautious in administering medicines to them. This is apparent, when we consider how very easily the infantile system is affected by changes of temperature, light and darkness, wet or dry air, &c. Irritants and narcotics, which are intended for the use of such patients, should be extremely mild. The neglect of this precaution explains the shameful mortality among children, in our larger cities. Young children, also, seldom require alterative medicines, for, owing to the activity of the nervous system, they recuperate very rapidly, when the causes of disease have been removed. No matter what the agent may be which we administer to children, they should be kept as quiet as convenient, until after the operation of the medicine. As a general remark, medicines administered to young children, should be given in solution, and be readily soluble.

After the age of puberty, we observe great changes in the system, which continue until the age of complete manhood is

attained. When physicians or writers speak of doses, or the action of medicines in the system, unless they specify some age, it is presumed that they refer to actions and doses, proper and common in practicing on adult men. During adult age, the action of medicines is much more constant, and the influence of external atmospheric conditions, less important. Every apparatus of the system is perfectly developed, and all active; but in old age, we find that there is a languor in the nervous system, instead of a marked activity, as in children. Every function is performed more slowly, the recuperative power is less active. Disease, with the old, runs its course slowly; the powers of chylosis are weakened, the secretions are diminished, there is an obtuseness of nervous sensibility and muscular response; large doses of medicine are borne with more impunity; medicines administered to them, ought to be of a stimulating kind, and not so readily soluble; hence, resinoids act charmingly on old persons.

The modifications produced by the difference of SEX, is remarkable, and worthy of notice. We find women more susceptible than men, to the influence of medicine, and especially so, when near their catamenial periods. We must, then, be careful in administering resinoid preparations, for, as they are more stimulating, by reason of their less ready solubility, and as the uterine system is exceedingly susceptible to impressions, we may bring on a condition which it is desirable to avoid. More than this, we must constantly bear in mind, that the slightest irritation of the uterus or its appendages, will give rise to a variety of symptoms, which we should not attempt to combat with active medicines. During the period of pregnancy, we should avoid the administration of those less soluble resinoids which occasion griping pains. The uterus is to the female, what the brain is to the man, in the production of symptoms of endless variety; and it will be well for the physician to inquire into the state of that organ, before making any application of remedies. Narcotics, drastic purgatives, parturafacients, and diuretics, must be administered to pregnant females, with much caution.

The modifications of therapeutic action, which arise from TEMPERAMENT, are too numerous to be properly noticed in this place, yet we must remind the practitioner, that the temperaments cannot be neglected by him who wishes to prescribe with certainty. By the bedside of his patients, the physician soon learns that the temperaments have a real foundation in nature, and that much depends upon them, to obtain satisfactory results of the action of medicines. Those persons who have a predominant development of the encephalic temperament, are very impressible to medicinal influences; and hence do not bear well, either stimulants or irritants, and require, as a general thing, smaller doses than those who have more languid temperaments. Persons with a positive predominance of the encephalic temperament, are so impressible, and so easily unballanced, that it is not rare to see the whole system thrown into a pathological condition, by a mere mental emotion—some undue impression made on the mind. Such persons are little more than compounds of mentality, and to whom thought, constant and intense, is just as necessary as the function of digestion. If they cannot think, they are immediately sick. The idea, too prevalent in the treatment of such patients, that the first work of the physician is to stupify or somnelize their minds, by repeated doses of narcotics, is founded in a false philosophy, and should not be encouraged. The desire or appetite for mental stimulus does not arise from a morbid condition of the nervous system, but is a result of their organization. Persons with such temperaments, are the most proper subjects for psychological medication. Possessing, as they do, strong sympathetic powers, they are apt to accumulate, upon particular viscera, more nervous energy than will be thrown off by the legitimate functional action of the part. Thus we have the foundation for a cachexy which may result in various forms of disease. As a general thing, the reaction of a medicine in the system, is proportioned to the force of action. Thus, if we administer large doses of hydrocianic acid to those who have the highly impressible temperament, the action of the medicine will be sedation, and the reaction, stimulation; and if we administer alcohol, we

have stimulation as the primary action, and sedation as the reaction. Now we must be careful, in treating such patients, not to produce a reaction from the effects of which the system cannot recuperate and maintain its integrity. Hence we find tonics better adapted to them than stimulants.

In the abdominal temperament we have the opposite of what is seen in observing the encephalic temperament. Here we have an obtuseness, and languor of the whole nervous system, but an increased activity of the secreting—the appropriative apparatus. There is a great tendency of this temperament to appropriate as nourishment whatever is taken in the system. Medicines act on patients with the abdominal constitution much more tardily than in other temperaments. They require larger doses. This is the temperament for heroic medication. The modifications arising from other temperaments are less important.

The modifications which arise from IDIOSYNCRATIC peculiarities of the constitution are numerous and peculiar. We mean by Idiosyncratic peculiarities, that disposition manifested in different persons to be singularly affected by ordinary agents. We often see in practice that a patient who can bear large doses of belladonna, cannot tolerate even small doses of opium. This we say arises from an Idiosyncratic peculiarity of the constitution. Some persons cannot use butter in any form; some cannot use milk. Rhubarb has been known to produce erysipelatous affections. Some again cannot tolerate the scent of musk, while others have a natural liking for the scent of assafœtida. Some cannot bear the scent of camphor, and syncope has been known to follow the smallest doses of jalap. Now mankind is not thus generally affected by such agents, and we refer the above and similar phenomena to Idiosyncratic peculiarities.

Much also depends upon the STAMINA OF THE CONSTITUTION. Children usually exhibit a tendency or cachexy to those diseases which were common to either one or the other of their parents. We have no faith in the immediate transmission of disease from sire to son, but we admit that the cachexy or ten-

dency to the diseases of one or both parents may be, and most commonly is transmitted. It will be well to bear this fact in mind; for when we remember that the development of the disease depends upon external causes or favorable conditions, every one must be convinced that certain agents would tend to do the very thing which of all others should be avoided, viz.: to develope a cachexy into an open disease. Such patients as possess fragile constitutions are easily impressed with atmospheric conditions; under a damp, lowering atmosphere they feel languid, listless, and depressed, and we must not, without further inquiry, give medicines to remove those indications of debility. A dry, pleasant atmosphere will soon bring out their buoyancy and general activity.

There is manifested a disposition of the human organism to acquire ARTIFICIAL HABITS. The stimulation produced by the long continued use of artificial agents eventually becomes as imperative as though it was an ordination of conformation to be thus impressed with artificial agents. When any viscus has been long accustomed to the use of an artificial stimulation, such as would follow the continued use of opium, tobacco, &c., the withdrawal of such artificial stimulation is immediately recognised, and unless the habit be partially satisfied for a while, we may see resulting from the sudden suspension of the stimulation general nervous derangement. Persons may use opium and similar agents until the system scarcely recognises the introduction of comparative large quantities. Thus, we see persons consuming with apparent impunity large quantities of opium, arsenic, &c. Now when such persons are laboring under disease, it would be useless to expect that an ordinary dose of similar medicines would affect them, hence the physician should carefully inquire whether any habits of this kind have been contracted. The long continued use of an article inures the system to its effects. Thus, the physician should know always when prescribing, whether his patient has been in the habit of using the agent he purposes to prescribe or not, and shape his course accordingly. The practitioner must, however, bear in mind, that when the system is habituated to one narcotic or one poison, it

does not follow, as a necessary consequence, that it is equally tolerant of others, for persons who will consume, in the course of twenty-four hours, fifty or even one hundred grains of opium, cannot likewise bear large doses of stramonium or belladonna, or other narcotics. On the other hand, certain irritating cathartics constantly used, may so increase the impressibility of the mucous membrane, of the intestines, that the quantity of medicine requisite to produce catharsis gradually decreases. This proposition is well illustrated by the history of the action of Cheltenham water. The same remark of increased impressibility is also quite apparent in studying the action of emetics.

The INFLUENCES OF CLIMATE on the action of medicines are well marked and definite. The power of the constitution to adapt itself to all climates is a source of infinite convenience to man. As the diseases of different localities are quite unlike, in many particulars, so will be the indications for therapeutic agents. In cold climates there is a tendency to inflammation of the mucous membranes of the air-passages. The imperfect transpirations of the cutaneous and pulmonary viscera, occasion local irritation in the mucous membranes of the bronchia which may be extended to the lungs, and finally end in consumption. The colder climates seem also to favor the scrophulous cachexy, hence the people of northern latitudes require much alterative medicine. Warm climates are favorable to erethism of the whole dermoid system; hence we have in warm climates, diarrhœa, dysentery, and various intestinal disturbances. There is also a great tendency to hepatic derangements, and hence the people of warm climates have much use for agents which excite the liver to vigorous action, and for those agents which tend to strengthen the tone of the intestinal tract. Those persons who have removed from a northern to a southern latitude very readily learn that they require less medicine to produce a given result than in a cold climate. So, too, less medicine is required to produce given results in warm than in cold weather.

The MENTAL AFFECTIONS which modify therapeutic indications, are numerous, and many of the freaks of a diseased imagination are truly astonishing. Hypocondriasis when watched for treat-

ment will impress the physician with the importance of a system of Psychological medication. It would appear, from what has been already stated, that the physician has to bear in his mind, constantly, a knowledge of all the circumstances which are likely to modify symptoms or therapeutic action, if he desires to prescribe with credit to himself and honor to his profession. Whoever looks on the physician as a man, merely entitled to wield certain physical agents, entertains a very contracted opinion of the extensive field of our labors. Observation will enable us to see every where around us that moral causes induce disease, destroy life, retard recovery, and often interfere with the successful action of medicines, the most certain and powerful in character. It is only as we recognize these remote agents, and estimate the value of those psychological forces which the cultivated and expanded mind is capable of wielding, that we can be successful at the bedside of our patients, command public confidence, and elevate our art to its true position. In order to influence the minds of others we must comprehend, as far as known, those great laws which preside over this department of our natures. Amid the quarrels of metaphysicians, the pedantic jargon and transcendental phraseology of mental philosophers, and the dogmatic phrenologists, the public seem to have lost sight of the great fact that this branch of philosophy or science comes within the scope of the investigations of the physiologist. When we remember that, as is generally admitted, the brain is the organ of the mind, and that it is the duty of the physiologist to regard the brain as an organ whose function he must investigate, just as he would the function of the liver, it must be apparent that the phrenologist, and those who attempt to reason on the brain and its functions, have invaded his province. Physiologists while they seem to have recognised this important deduction, have quietly submitted to the invasion of their field of study, by persons whose limited acquaintance with physiology as a science, must preclude the idea of great proficiency in tracing out the laws which preside over the brain. It is quite easy to invent theories which apparently explain some of the functions of the

brain, but, unfortunately, the intelligent physician soon learns that these theories have no foundation in fact. If we are ever to have a correct mental philosophy, it must originate with some physiologist, who studies the brain as he does the kidneys, the liver, or any other viscus of the human body. So little was accomplished by the ancient metaphysicians, and which has been of so little value to the practitioner of medicine, that he must investigate anew the whole subject. The art of talking nonsense about the mental constitution is too common, even at the present time, especially by those who are partial to the transcendental phraseology of the German schoolmen.

It is amusing to see how readily a certain class catch at the mere hints of physiologists, build up theories claimed as original, and by their forwardness so disgust those who have the ability to investigate scientifically the great laws of our mentality, that they silently withdraw from the field of labor and yield the fate of science into the hands of the unlearned. But the study of mental philosophy, and its influence on the art of curing disease, is so important that, it seems to us, every physician should be familiar with the subject. Whoever is engaged in the study of mental philosophy is engaged in the study of his own mental self. Whatever turns the mind inward to an examination of itself, concentrates its forces and prepares the investigator for a due comprehension of science. The cultivation of habits of correct observation and reflection, of rigid induction and logical ratiocination, prepares the mind for investigating the phenomena daily presented to the practitioner in the exercise of his art. No man has arrived at eminence in the medical profession who has thus failed to tutor the mind. Logic should constitute no small part of the physicians education. Logic, it is true, cannot teach the physician the nature of symptoms which indicate disease; this he must learn from observation; but logic will teach him how to measure the sufficiency of his observations.

Whoever undertakes to analyze the passions, should feel it a duty to ascertain as clearly as possible, the nature of that mysterious union which subsists between certain powerful mental

emotions, and particular organic tissues, and why it is that the same passions do not affect all persons alike: e. g. fear will produce in some palpitation of the heart, while in others it brings on diarrhœa. If the impression of fear be long continued, organic changes will actually occur at the center of circulation. Destitute of the knowledge of this fact, the physician in a post mortem examination would be led into grievous error. Medical Psychology alone affords a satisfactory explanation to such phenomena.

The field of inquiry for the medical psychologist is very extensive; it is for him to explain the effect of anger upon the hepatic secretions, and the reaction of a diseased liver upon an irascible constitution. We shall not argue the question whether the physician himself is not a psychological agent, for he is, and competent judges must admit it. He produces emesis with starch water, sweats with logwood tea, brings on catharsis with bread pills, cures epilepsy with the manipulations of his hands, arrests hemorrhage with a stern look and a mystic word, cures ague by the recommendation of amulets. In short the mind and language of a physician is a dispensatory of mental materia medica.

By the above assertions we simply mean that a large proportion of agents which have been long considered highly effective have little or no value, except as they derive it from the prescriber's mind and the patient's credulity. The moss from a human skull has as surely cured convulsions, as that cod liver oil has cured tuberculosis. To learn precisely the influence which a patient's confidence exercises over the action of a medicine, let any practitioner tell every patient he prescribes for in twelve months that he knows nothing of the agent he is prescribing, and he will be surprised to find some of his most valued remedies either inert or possessed of qualities quite opposite to those which the agent is thought to possess. It is only by admitting these considerations that we can account for the immense popularity enjoyed by many agents for a time, which lose their importance as soon as questions of their virtues are raised.

But there are, on the other hand, many agents which are so positive in action that they exert their specific influence whether the patient's credulity be enlisted or not. It is of these positive agents of the materia medica that this book is to treat: and while we do not assume infallibility of opinion, we are determined to treat of no agent which experience has not demonstrated to be worthy of attention.

CHAPTER III.

It is not our intention to treat, in this work, to what extent the animal and mineral kingdoms add to the materia medica. We know that each furnishes important and numerous agents; but it is principally from the vegetable kingdom that we derive most of the agents of cure. It is possible, perhaps, to determine how many really valuable plants have been already discovered, which are worthy of our attention as constituting the positive materia medica. But it is impossible for us to say how many such are scattered throughout the vegetable world, as yet undiscovered. In every zone, under all conditions, wherever the most minute seed can find a resting place in the crevice of a rock, or in the white sand, plants spring, and (though we can hardly detect their sources of nutriment) perfect themselves, decay, and give place to other plants of a hardier nature. Neither the barren wastes of Central Africa nor the frozen snows of Siberia can completely arrest vegetation. On sterile rocks, suspended in the air, springing from the beds of Geysers, and from volcanic lava as soon as it is a little cooled, the delicate vegetable fabric springs into active life. The tenacity with

which they cling to life, and the manifest tendency which they exhibit to multiply and cover the earth, would lead any contemplative mind to the conclusion that they were intended for more than mere food. Men have long been impressed with this fact, and from an early age the sick or enfeebled have fondly sought relief by introducing into the system some vegetable compound, or infusion. Not only so, but even animals, when unwell, also resort to the fields, where an unerring instinct directs them in the selection of remedies. Experience has justified this partiality for vegetable substances.

We do not pretend that every plant to be found on the surface of the earth is valuable to man as a medicine, nor are we willing to say which are destitute of medicinal worth. It may be possible that every plant contains some hidden virtue, unknown, only because our inquiries have been too limited. Many plants thought to be quite inert and valueless as medicinal agents, have been found, upon proper investigation, to be rich in principles of the utmost importance to the practitioner of medicine. The indiscriminate distribution of plants over the earth, renders it very difficult to become acquainted with every individual plant—and, if this remark is true at the present day, when the science of botany has been so successfully developed and popularized, how much more difficult was it to form an extensive acquaintance with the vegetable kingdom when the investigator was surrounded by a chaotic confusion, and knew nothing of the system and arrangement which the researches of modern botanists have developed! The science of chemistry has also lent its aid to the modern investigator, and thus enabled him to detect, with certainty, the true character of those principles upon which the value of the plant as a medicine depended. The botanist has ferreted out some of those great laws which govern the developement of the plant, and chemistry has enabled him to detect the primary elements which serve to build up the vegetable fabric—to determine also what principles are drawn from the soil and what from the air.

Those who have not paid special attention to the subject, have but an imperfect idea of the extent of researches, having

for their object the more perfect understanding of the laws which preside over vegetable life. And it is well for science that such a general interest has been manifested in this direction, for thus the interests of humanity have secured for their advocacy men of education and moral worth—men who have moral fortitude to labor for the common good, irrespective of public opinion—men who are actuated by principles of virtue, and entirely above the base pursuit of a mere selfish object. We have only to know the men engaged on this department of knowledge to be convinced of the correctness of these remarks. It is very true that men of little note, and men of strong prejudices have labored, or pretended to direct their labors in this direction, and have claimed for themselves and their operations and opinions an undue importance; but such have now almost entirely disappeared, and men of another, and more exalted caste have taken hold of the work in good earnest.

There has, we believe, never been a discovery made or an invention perfected, before the requirements of the race called loudly for the discovered or invented thing. Operations in this world do not take place so rapidly as many persons suppose, nor do brilliant discoveries flash upon us so suddenly as some persons seem to think. Steam was not discovered and applied in a day, nor was the discovery made before the requirements of the race demanded such an agent. One discovery gives rise to another, by teaching us our wants. Every discovery tends to expand the mind, and every perceptible degree of expansion of the mind, every advance in intellectual vigor, prepares the way for new discoveries. Few persons, with the knowledge of the present age, would be willing to traverse the country in old-fashioned hackney coaches, or the Atlantic in Chinese junks. If these positions are true in one sense the principles are true in all cases. Upon such predications we shall base the arguments in the position which we take in asserting that the requirements of the healing art demand agents of cure more positive in character than those which have heretofore been in use. We do not, however, mean to argue that the agencies which have, many of them, been in use for hundreds of years,

are all destitute of positive properties; but we shall contend that the mere knowledge that an agent is narcotic does not, and should not satisfy the practitioner that he is justified in prescribing it without further inquiry. He must know what amount of narcotina the agent positively possesses. Opium, e. g., is a narcotic, but all specimens of opium do not contain the same relative quantity of narcotina. Small doses of opium are stimulant, while large doses are sedative. Suppose the physician shall desire to administer opium where the indications call for positive sedation, and he administers accordingly a large dose of opium. Now then, it may, as it often does, turn out that the article administered is not of a good quality—does not contain as much narcotina as he had supposed. The result will be, under such circumstances, that in place of producing sedation, and thus saving his patient, he gets up stimulation and destroys him! Physicians know that this supposed case, for illustration, is founded in fact; that it has occurred over and again in practice. The requirements of positive narcotization, then, clearly demanded a discovery which should enable the practitioner to know positively how much of a principle he was administering, and the result was, chemistry made him a present of the salts of morphia. The discoverer of those salts did much for the science of medicine, and for mankind. The same is true of wolfsbane and aconitina, of belladonna and atropia, nox vomica and the salts of strychnia, veratrum and veratria, &c. &c.

All plants are found, upon examination, to be composed of the four organic elements, carbon, oxygen, hydrogen, and nitrogen, variously combined as to relative quantities. Of these elements carbon enters more largely, and nitrogen less conspicuously into the vegetable fabric. The deficiency of composition by the above elementary principles, is made up by six parts of earthy substances, found in different proportions in different plants. Among the earthy constituents we find potassa, soda, iodine, silex phosphate, oxolate and carbonate of lime, &c. &c. As we never find plants destitute of these earthy particles, it has been justly supposed that they are essential to

the development of their bodies. It has been sometimes a matter of discussion, whether the plant drew these principles from the soil, or generated them in the process of vegetation from the gases of which they are composed. As plants are destitute of the power of creating, and can only appropriate, and present in new combinations, such an argumentation must be negatived, and the assertion made, that plants derive all their nourishment from the soil, air, and water. As we are to treat of the medical secretions of plants, it may not be improper to state how they carry on the processes of nutrition and secretion.

Plants derive their carbon from the carbonic acid gas contained in the atmosphere, and from decaying vegetable and animal matter in the soil. They derive oxygen from water, and hydrogen from water and ammonia, while the nitrogen is derived from ammonia alone. In the soil, we find two classes of material—mineral and organic. The mineral materials are held in solution in the water which the rootlets imbibe from the soil. The organic materials are changed by decomposition into carbonic acid gas, and ammonia, and in these forms enter the growing plant. Water, ammonia, and carbonic acid, then, furnish to plants the four primary elements, and nearly all may be derived from the air alone; for we see some plants existing even when suspended in the air. The circumstances, then, necessary to secure healthy vegetation, are, free access to atmospheric air, which is subject to frequent agitation by wind, water, and a soil containing all the mineral substances necessary to their nutrition. After these have been supplied, there remains to be added the two great life-giving principles of light and heat. Proportionally, the more abundantly these last conditions are guaranteed, the better. Under the influence of light and heat, the crude materials which have been imbibed by the rootlets and leaves are digested and fitted for assimilation. Water is imbibed, under the influence of solar light and a proper degree of temperature, by the roots, and raised into the stem. In its ascent it dissolves small particles of gum or sugar, &c., previously deposited upon the walls of the tissue cells; continuing its ascent it enters the leaves, and is subjected to the action of

solar light and the chlorophylle, where digestion is finally completed. In this process a large quantity of the crude sap in the shape of pure water is exhaled, and at the same time the leaves inhale carbonic acid gas from the air. This is decomposed, carbon is appropriated by the plant, and pure oxygen given back to the atmosphere. We find, by analysis, after this process of digestion has been accomplished, that the proper juice or elaborated sap, contains carbon, water, nitrogen and small portions of mineral substances. The course of the sap is then downward, when these materials are deposited and assimilated to the vegetable fabric.

Whether we examine with a microscopic eye the atomic structure of the basaltic pillars which uphold the mountains, or with the telescopic lens endeavor to investigate the composition of the millions of worlds which are whirling through illimitable space, or the chemical properties of light and heat, or the cellular structure of the simplest vegetables, or the vital forces which are brought into requisition in order to secure complete organization, we shall always find perfection! and no mind, save one of shameful obtuseness, can fail to perceive that he who sets out to search for the spirit and presence of Jehovah will not always confine himself to the grosser and more material objects in nature, but in the spirit of the true philosopher, he will learn that in order to arrive at truth, and to comprehend the vastness of nature which every where surrounds him, he must investigate nature in a cosmopolitan as well as in a minutian sense. He must take into consideration the relations which one part of God's kingdom sustains to all other parts. He must examine with a scrutinizing and analytical eye the old and long received opinions of his ancestors, and if they be found deficient, when measured by the tests of science, they must be rejected at once; for by pinning our faith to the opinions or mere assertions of others we degrade the God who has endowed us with powers sufficient to perceive the relations which subsist between cause and effect.

When we speak of the secretions of plants, we refer to all essential products of vegetation, not constituting a part of the

vegetable tissue—oils, resins, vegetable dyes, active medicinal principles, &c., from these, plants derive their distinguishing peculiarities, chemically considered. Pure vegetable tissue, though combined with gum or starch, is nearly or quite tasteless. The formation of these secretions, depends upon the influence of light; many plants which produce secretions of a powerful medicinal character, under the rays of a tropical sun, are almost totally inert in colder climates. And this is true, even though artificial heat be employed to make up the deficiency of temperature. Thus, roses of the south are alone capable of yielding the essential oil known as otto of roses. We see, also, an example of the influence of light, when we find that plants which are grown under the powerful rays of a tropical sun, contain secretions so powerful as to render them unpleasant to the taste, or even poisonous; while the same plant, if grown in a northern latitude, or in dark situations, becomes not only inoffensive, but actually palatable and nutritious. This is an important consideration for the pharmaceutist.

The secretions are not formed in the ascending crude sap, but in the descending elaborated sap. In the downward course of the digested sap, the secretions, are very often, to a certain extent, separated and concentrated at some particular locality in the vegetable body, as in the bark, the roots, &c. To give the reader a correct impression of the secretions, we shall treat briefly of them in classes. We may notice, first, the essential oils. The essential oils have been divided into two classes, the fixed and volatile oils, by many who have written on the subject; or into two other classes—those which are not pre-existent in the plant, and which form acids, and those which are pre-existent, and do not form acids. In the distillation of plants which yield hydrocyanic acid, there results from the decomposition of a substance called amygdaline, an oil, as well as the prussic acid; and that oil is popularly termed oil of bitter almonds, from the fact that it is obtained in greatest quantity from that fruit. The action of oil of bitter almonds on amygdaline, produces, under different circumstances, a number of acid oils, e. g., benzoic acid, &c. Ammonia, acting on oil of

bitter almonds, produces another and valuable salt. In the bark and flower-buds of the Laurus cinnamomum, and L. cassia, we find an oil, the specific gravity of which is heavier than water, and, like the plant, very odorous. This oil is seldom obtained pure, because, when exposed to the air it absorbs oxygen, and the incident decomposition furnishes the cinnamon oil of the shops. Iodide of potassium operating on cinnamon oil produces the iodide of cinnamon which crystalizes in large needles of a bronze color. In the balsam of Peru we find two essential oils which have been termed myriospermine and myroxyline. From the undeveloped flower-buds of the Eugenia caryphyllata chemists derive two distinct oils, one light, and the other heavy. Eugenic acid results from the action of potash on the light oil of cloves. From the Spirea tomentosa, also, two oils sustained by a camphor base, are obtained. From the common black mustard, we obtain a compound oil, which yields, when acted on by nitric acid, sulphuric acid, and a complex, organic body. With caustic potash, it yields a sulphocyanuret of potassium, and other substances, as a residuum. With ammonia, it yields a substance that crystalizes in large white needles. From the seeds of mustard, we obtain sulphosinaposin, which is white, and soluble in both water and alcohol. The medicinal value of these principles, is not yet known, and we mention them, only to show that chemistry is daily presenting us with agents, which, until recently, were not supposed to exist.

Of the oils which are pre-existent in plants, we know more than of the former class. They are numerous, and are characterized by not being soluble in a solution of potash. They act, also, with less vigor, when introduced in the system. With muriatic acid, they form heavy, oily substances, which, in some cases, are crystalline. They have a most powerful affinity for iodine—frequently producing a slight explosion, when brought in contact. These oils consist, essentially, of two distinct substances—stearopten and elaopten—or an oil and a camphor. By the action of fused hydrate of potash, we may obtain from most of this class of oils, an acid; thus, from valerian, we obtain valerianic acid; this, when allowed to absorb oxygen,

generates common camphor. From oil of cumin, we obtain, in the same manner, cumenic acid. These results are obtained only from those oils which contain oxygen. Many of the oils, well known in medicine, as the oils of citron, copaiva, juniper, savine, turpentine, &c., contain no oxygen. From this class of oils, chemists have obtained some curious camphor compounds, such as menthen, anisoine, &c. Of the true resins, we shall speak, presently. From what has been already stated, it will be perceived that the field of inquiry is very extensive, and that much study and experiment is requisite to develop the science of organic chemistry.

The study of the acid principles found in plants, is highly interesting and essential, to the investigation of those engaged in the pursuit of the knowledge which we propose to communicate in this work; and, also, as a matter of information, of which no organic chemist can be entirely ignorant, if he pursues his vocation with an earnest desire to benefit his fellow-men, and to place the healing art on its proper basis. The vegetable acids, are very numerous, but as our space is too limited to describe them all, we must select the more important, merely for the sake of illustration. Tartaric acid exists in almost all kinds of fruits; most commonly as tartrate of lime, but sometimes as free tartaric acid. It is very soluble in half its weight of water, and in alcohol. When heated, it separates from water, and forms two distinct acids. If a solution of it be exposed for a considerable time, it forms carbonic and ascetic acids; or the same thing may be immediately accomplished, if we boil it with an excess of oxide of silver. It is not volatile. If it is fused with potash, we obtain acetic and oxalic acids, &c. This acid enables us to obtain neutral tartrate of potash, tartrate of ammonia, tartrate of lime, prototartrate of iron, &c., &c. When this acid is heated, it forms into a gummy mass, and will then combine with a number of bases resulting in salts, quite unlike the tartrates. Thus, the organic chemist must be cautious, else, by means of the presence of this acid, he will obtain agents or forms of compound salts, that will interfere with his search for other medical properties.

In the juices of various fruits, such as the lemon, orange, currant, quince, &c., we find another acid, which has been termed citric acid. This acid gives rise to three salts, not of much practical use, it is true, but worthy of attention. Citric acid, when heated, fuses, gives off water, and is changed into an acid exactly similar to that found in the aconitum nepulus, and has hence been termed aconitic acid, or equisetic acid, from its abundance in equisetum. With ether, this acid may be completely separated from the citric acid. When pure citric acid is put with alcohol of 93 per cent. and muriatic acid, there results a pure aconitic acid. In certain fruits, associated with citric and tartaric acid, and especially in the berries of the houseleek and mountain ash, we find another acid called malic acid. This is a remarkable acid, especially in its relation to bases: e. g. carbonate of magnesia is the only earth which will neutralize it. From malic acid, we obtain several salts, not necessary to be noticed in this connexion. Opium, alone, yields meconic acid, which cannot be here considered.

In the bark of most exogenous trees, the roots of many, and especially from the gall nut, we obtain another very important acid—the tannic acid, or tannin. This acid is an important medicinal agent, and as a chemical rëagent, is invaluable. It is too well known, to require from us a description. From the decomposition of this acid, there results another acid—the true gallic acid—which does not seem to exist, ready formed, in plants, as many have supposed. From the decomposition of gallic acid, we obtain pyrogallic acid, melangallic acid, ellagic acid, &c. Most vegetable astringents, depend upon the presence of these acids, for their virtues. All astringents, however, do not, alone, contain tannic or gallic acids, for the catechu is known to yield, at least, four distinct acids. The various species of cinchona and kino, yield acids peculiar to themselves, and bearing names derived from such sources.

We must not neglect to notice certain other substances, in this place, which are found in plants of different kinds, and of which the pharmaceutist ought, by no means, to be ignorant. The first of these substances to be noticed, is pectin, which is

found in almost every plant. The expressed juice of currants, cherries, or plums, when mixed with alcohol and suffered to stand a few hours, develops pectin, which, when dried, forms a transparent mass, not very unlike isinglass. If this substance be acted on by nitric acid, we get, as the result, pectic and mucic acids. From those species of salix, noted for having a bitter taste, and from the barks of numerous trees and shrubs, we derive a substance, in white, rectangular, crystalline plates, to which the name salicine has been given. The taste of this substance is intensely bitter. It is soluble in alcohol, insoluble in ether, and soluble in eighteen parts of cold water. There is associated with this body, a resinous substance, called saliretine, which is of a white or pale yellow color, insoluble in water, but soluble in alcohol and ether. When we boil salicine with nitric acid, we obtain picric acid. With chlorine, we obtain a beautiful crystalline substance, soluble in alcohol, but, as yet, unnamed. With oil of vitriol, we obtain from salicine, a deep green substance, to which the name olivin has been applied. It is crystalline, and insoluble in either water, alcohol, or ether. Phloridzine, another of this class of substances, remarkable and worthy of attention, is obtained, in great abundance, from the under-ground bark of the various species of apple, pear, and plum. When we dissolve this substance in dilute sulphuric acid, and then boil the solution, we obtain a beautiful white crystalline substance, to which the term phloretine has been applied. With nitric acid, we obtain from this latter substance, phloretic acid, which occurs in a yellowish powder, having a velvety appearance—insoluble in water, but soluble in alcohol. With ammonia, treated in different ways, we obtain a number of most beautiful colors, not very important, however, to the pharmaceutist. When we macerate the roots of marsh mellow for forty eight hours, in water, then strain and evaporate the liquor, and suffer it to remain at rest for a while, a crystalline substance separates, to which the name asparagine has been given. Boil this in a solution of barytes, cautiously add sulphuric acid, and the result will be aspartic acid. From this acid, we obtain a number of salts. There is obtained from

black and long pepper, a white crystalline substance, which is destitute of either acid or basic properties, and to which the name piperine has been applied. From the various species of anemone, we obtain anemonine, or anemonic acid. We might, also, notice cetrarine, picrotoxine, columbine, cusparine, elaterine, meconine, peudocinine, æsculine, populine, quassine, santonine, sapanine, senegine, smilacine, absenthiine, lactucine, &c., but our space does not now admit of it. We shall refer to these substances, in the body of this work, and endeavor to show how the researches of chemists, in this direction, have been of less utility to practical medicine, than we could have wished.

We come now to the consideration of a class of substances, which are all important to the pharmaceutist, and worthy of all attention from those engaged in the manufacture of concentrated preparations. Of them, chemists can tell us but little that is worth knowing, except such negative information as cannot be turned to account, further than to teach us to distrust all confidence in those persons who pretend to have learned their true nature. When evaporating a vegetable infusion, reactions occur, which are much promoted by the heat employed. The solution or liquor is, at first, clear, but it soon becomes turbid, and of a brown color, and the remainder, after it has been evaporated to a thick slimy consistence, is termed extractine, or an extract. Upon examination, this is found to be a mixture of the constituents of which the plant was composed. No matter how much we wash and re-evaporate, the residuum settles down to this apothemean condition. The true nature of this substance, chemically considered, is not known. When the condition above described is yet incomplete, there is a part of the mass which will dissolve equally in water and dilute alcohol, but not in absolute alcohol or ether. This has received the name of extractive, which is destitute of chemical properties; and it is thought that there are different kinds of extractive, such as bitter extractive, gummy extractive, astringent extractive, &c. It is to be feared that some of our enthusiastic operators oftener get apotheme, than the real concentrated

active principle of the plant. It is said, upon good authority, that colocynthine, emetine, rheïne, &c., are nothing more than such apothemean substances. In the preparation of aloeïne, we obtain four separate acids, and it is quite probable that without these, the aloeïne is less valuable than many suppose. It is desirable to pursue this subject further, but we have not sufficient space to spare. We shall examine next, the resins and resinoidous substances, though rather briefly. And, in doing this, we must remind the reader, that so little has been said of them by writers, that most that we know of them, is new, and requires the scrutinizing criticism of chemistry; which, however, has succeeded but poorly in analysing them.

The resins proper are very closely allied to the camphors, both in their composition and in their properties. They are distinguished from them by their involatility without decomposition, and by generally being capable of acting as acids. The various species of pine furnish resins which are, at first, combined with oil of turpentine, but separates on distillation. The resin thus obtained is compound, and contains what is termed the picric and sylvic acids. The resin of spruce fir is composed of two resins, one more and the other less soluble than the mixed resin, and both somewhat acid. Resins, as they exude from trees, and are used in commerce and in medicine, are mostly associated either with oils or gums, and not unfrequently with either benzoic or cinnomic acid, when we have, as the result of composition, balsams. In other cases we find a number of resins associated, all insoluble in water; soluble in alcohol, ether, and the essential oils, and fusible. The examination of over sixty of these resins has shown they contain nearly the same relative quantity of carbon. The elements of these resins, as well as the resinoids, are carbon, hydrogen, and oxygen. The resinoids are not so easily obtained, nor are they so abundant as the resins. While the former exude spontaneously from trees, the resinoids are intimately connected with other principles which we have already noticed. Like the proper resins, they are fusible, soluble in alcohol, but not in water. Heat reduces them readily to a liquid form. As usually

obtained heretofore, the resinoids have not been freed from the coloring matter. This class of resins, which are eminently medicinal, have been known to exist since chemists first pushed their researches into the field of organic chemistry, but it is only recently that their medicinal virtues have received the attention to which their value really entitles them. We do not think that all is yet known of these substances which the demands of positive medication require. This is true as regards their pharmaceutical preparation, and much more so in respect to their therapeutic value, as we shall show when treating of special resinoids.

We come next to notice the vegetable alkaloids, a portion of our labors highly interesting and important. The alkaloids that have been already discovered, are very numerous, and many of them have long been known in medicine; but to chemists and pharmaceutists of the present day, is due the credit of discovering many alkaloids only lately introduced to the notice of the profession. Again, some which have been long known, are now brought forward as recent discoveries. There is, perhaps, less honor attached to the discovery of such substances than some persons are willing to admit; for though the processes of the earlier chemists were incomplete, and they failed to bring out, in proper form, the alkaloids which others of a later date have succeeded in extracting, yet were the principles of extracting them known long ago.

Notwithstanding declarations to the contrary, these substances are found existing naturally in plants, and give to them their positive medical value. They are characterized from other substances found in the vegetable by containing nitrogen, and by forming well marked neutral salts with the strongest acids. It has been supposed that the alkali of plants depended upon the presence of nitrogen, the relative quantities corresponding. We find in the bark of cinchona, three distinct alkalies known respectively as quinine, cinchonine, and aricine. These alkalies give rise to various salts: sulphate of quinine, muriate of quinine, phosphate, tannate, ferro-prussiate of quinine, &c.; sulphate of cinchonine, muriate of cinchonine, tannate, &c. From

opium, we obtain an alkaline principle—morphine—giving rise to nunerous salts, generally well known in medicine. Narcotine, codeïne, thebaïne, narceïne, &c. Thus, from the same plant may be obtained several alkaline principles, more or less important in a pharmaceutic and therapeutic point of view. From strychnos we obtain strychnine and brucine, and their salts. In like manner, from other plants we derive veratrine, sabadalline, jervine, emetine, colchicine, solanine, chelerythrine, chelidonine, aconitine, geranine, hydrastine, atropine, &c., &c. Of these and other alkaline principles, chemists thus far have been enabled to tell us very little, except that thus and so cannot be effected, such and such salts, though existing by analogy, cannot be produced, &c. And even those who have pretended to work in this direction, to produce medical alkaloids, gravely tell us that such and such results cannot be obtained! Now the plain fact reduces itself to the admission that *they* cannot obtain them. But in this age of discovery no man is justified in saying this or that thing cannot be done. Ten years ago had one been asked whether news could have been transmitted from Halifax to New York in less than two minutes, the probable answer would have been, No. Yet it is done. And now because one chemist says a certain result cannot be produced, it is not a sufficient reason why some other chemist may not accomplish it.

CHAPTER IV.

WHOEVER appreciates the value of positive medication, will also appreciate the value of the active principles of plants, as agents of cure. But our experience teaches us that simple, uncombined active principles, are not so valuable in the hands of the physician, as the combined active principles, concentrated and separated. To illustrate this, we have only to examine the cure of periodic fevers, by the principles of astringency, bitter-tonicity, stimulation, and an aroma. These principles, properly combined in any agent, act as an antidote to those fevers in which we use quinine, and we find quinine to possess them all. The ordinary process of obtaining quinine, preserves this combination, merely concentrating the principles; but if we undertake to get out the separate principles of quinine, we destroy the proper combination, and, at the same time, the value of our remedial agent. When the medicinal principle is found in a single substance, then the more perfect the concentration the better. Many who have attempted to concentrate the vegetable medicines, seem to have lost sight of these facts, and hence, in many instances, have furnished concentrated preparations, often deprived of the more important medicinal principles. The American Chemical Institute, in the city of New York, produces most of the concentrated preparations, in a form which maintains the integrity of nature's combinations. Hydrastis canadensis is an invaluable agent in the treatment of apthous sore mouth, yet hydrastin, the resinoid principle for such a purpose, is valueless; but the hydrastis yields an alkaloid and a resinoid, which, when combined, though separated from all other principles, possesses the medicinal virtues of the hydrastis, in a concentrated form.

These considerations have been too much overlooked, we fear, by most persons who have engaged in the preparation of concentrated remedies. If the active medical property resides in an alkaloid, it is only necessary to separate this, in the best form, or if it resides in the resinoid alone, there is no necessity for encumbering the concentration with an inert substance. Very frequently, it is found that the resinoid possesses one property, while the alkaloid contains another; and, when combined, we obtain therapeutic results not easily obtained by either substance singly. The pharmaceutists of the American Chemical Institute, by observing these principles, have obtained some most beautiful preparations, which act with great certainty and consistency in the system.

It is very certain that we have much to learn yet, respecting the chemical character of the agents employed in medicine, and until we learn their true constitution, we must be governed by experiment. Results thus obtained will enable us to speak more positively of agents, than where we are governed merely by some fascinating theory in forming our opinions. One who feels any interest in this particular department of science, cannot but be struck with surprise, when he learns that we have as yet no work of note on organic chemistry to assist us in our experiments. The German and French chemists have not entirely neglected the subject, but have so condensed what they know, that we derive little or no advantage from their works. American and English chemists have turned this department of their researches in the direction of agriculture, which, though highly interesting and beneficial to man, does not do for medicine, what all physicians must sincerely desire.

The advantages arising from a concentration of vegetable medicines, are too obvious to be questioned. We find the medicinal principles of plants combined with such a large proportion of inert or non-medical matter, that the administration of a proper quantity of the crude article, in the form of powder or in pill, is altogether impracticable. In preparing alcoholic extracts, we frequently destroy the medicinal principle, and get, instead, an apothemean compound, nearly or quite value-

less. Infusions and tinctures are equally objectionable—the former, on account of the large draughts necessary, and the latter, in consequence of the stimulation incident to the administration of alcohol. Besides, tinctures do not always contain the real active principle—especially where this is not perfectly soluble in alcohol. The concentrated principles are so powerful, that no one can consistently object to the size of the dose. And yet their administration is in every way as safe as the crude article. Physicians have found no difficulty in the administration of morphia, and could not, were it concentrated tenfold. In place of the old-fashioned medicine cases and saddle-bags, formerly used, which were inconvenient and burdensome, the physician can now carry fifty different kinds of medicine, and five hundred doses of each, in a small case, which is but little larger than an ordinary pocket-book, and may be slipped in a side pocket of his coat, without the slightest inconvenience. And in thus speaking, we do not mean to invade the province of homeopathy, or have it understood that this reduction of doses depend upon the discoveries of the founder of that system. The reduction of which we speak, has been brought about by the mere concentration of articles; for *the amount of medicine* prescribed is not materially lessened; and were a physician to undertake to carry as much medicine, in the crude state, as may be put up in one of the small cases to which we refer, he would be compelled to take with him, in making his calls, a cart, to haul his medicines!

But the greatest advantage to be derived from the use of the concentrated medicines, and the one most important and worthy of the attention of the profession, is the definiteness which it imparts to practice. By this means the physician can know precisely how much of a medicine he is giving. To illustrate this, we beg to cite a few *facts*. Many medicinal plants collected in cold climates contain only a small portion of the active principles, upon which the virtue of the plant depends, while the same plant grown under the influence of a tropical sun, contains a large amount of the active principles. Now physicians cannot well tell by the mere appearance of the dried plant, or parts

of the plant, from what section it was derived, and hence does not know how much medicine he is positively giving. This accounts for the very contradictory statements which we see in medical books relative to the value and inconstancy of the action of plants. Again, there are other plants which require to be grown in a cold latitude where the seasons are short; for in southern latitudes the heat and drought of summer dissipates the active principles, unless the plants be gathered at a particular time. Now the concentration of the active properties avoids this uncertainty, and the physician is enabled to prescribe knowingly. The promptness and certainty of action thus induced is highly gratifying, and brings the art of prescribing much nearer to the conditions of a positive science. The only question which could be raised against this form of medicine is, are the manufactured articles pure? This must depend upon the integrity of the manufacturers. It was to insure the purity of the concentrated preparations that the American Chemical Institute was founded on its present basis. The writer has carefully examined the mode of preparing these medicines at the American Chemical Institute, in New York, and thoroughly examined the preparations themselves, and is well satisfied that they are there got out in the purest form which is attainable with the present lights of chemistry. And we believe, also, that this is the general opinion of all who have used the medicines prepared by the above institution.

As it is our object to do what we can to further the ends of positive medication, we shall notice briefly the action of the more important classes of medicine, though to treat generally of therapeutics as a science, we have not space in a work of this size. And in treating the subject of the action of medicines, we shall take for granted nothing which is not clearly supported by facts, derived either from our own experience or that of others on whose veracity we can fully rely. When we are brought in contact with a physician who unhesitatingly asserts a perfect knowledge of the manner in which medicines operate, we at once suspect him of charlatanry. We have given this subject our closest attention for some years, and, though we

have examined most of the theories which have been presented, we freely admit our ignorance of the manner in which certain medicines, and even certain classes of medicines operate. We do not deny but others may know what we do not, yet it is not our intention to receive as authority the mere opinions of any one. We expect only to notice the general results, the causes and effects of certain general therapeutic phenomena.

The simplest form in which medicines operate, is where they are brought in direct contact with an organ, and thus exercise their influence immediately upon it. The actual cautery, caustics and escharotics, are examples of this kind of therapeutic action. We speak now only of primary effects. We know that a local application of this kind may be so applied as to have a general influence, in a manner which will hereafter be pointed out. If, for example, we throw in a weak solution of almost any astringent upon a slightly inflamed conjunctiva, the inflammation will be readily dissipated. But if we use a very strong solution we shall not only defeat the object, but get up an irritation which may finally involve the whole system, and thus convert a simple into a very complex disease. It is well established, that the stomach is, by sympathy, most intimately associated with the entire human organism. We see all manner of hallucinations, aches and pains, attendant upon deranged conditions of the stomach. Hypochondriasis and dyspepsia are most commonly united, and the physician who attempts to treat hypochondriasis without inquiring into the state of the stomach, has not certainly comprehended the influence of that viscus on the general nervous system and brain. On the other hand, no organ in the body can be affected for any considerable length of time, without the stomach being more or less affected by sympathy from it.

It seems to us that there are but two principal ways in which medicines operate—through the medium of the nerves, and by absorption; and if we reduce the proposition to its simplest form, we should say all medicines operated through the medium of the nerves. We mean, however, in our first and more comprehensive statement, that medicines act, first, by coming in

contact with the nervous ramifications, and there making their appropriate impressions; and second, by being first absorbed, entering the circulation, and then exerting on the nerves their therapeutic influence. To illustrate the sympathetic relation of the system, we have only to notice the phenomena which arise when a delicate person has the feet exposed to moisture. The function of the capillaries of the feet becomes deranged, and the effects are reflected to every part of the body, and more perceptibly to such parts as are predisposed to derangement. A dozen persons thus exposed may each be affected differently from the others, as different organs or tissues are predisposed to derangement. One may get pain in the intestines, another neuralgia facia, another inflammation of the bronchia, another rheumatism, &c., &c. This principle of transmission of influences or impressions applies equally to mucous membranes, and explains, in a measure, the influence of medicines taken into the stomach. Every physician of intelligence is familiar with the numerous experiments of physiologists to prove the transmission of medical impressions directly through the nerves. When we administer strong hydrocyanic acid to the tongue of a small animal, it dies before the operator can lay it down. In this case no one could suppose that the acid had been absorbed, taken into the circulation, and thus quickly conveyed throughout the system.

Many medicinal substances seem to act by special preference on certain portions of the nervous apparatus. Opium stimulates, and then stupifies the brain; strychnia affects the spinal marrow, as well as the brain, giving rise to convulsions; while hydrocyanic acid induces coma and tetanus. The differences of effects are here well marked, but of the special causes which give rise to those differences, we are at present unable to say. These peculiarities are not accidental, but, *ceteris paribus*, are always the same. And to show that this is a manifestation of affinity, we get the same results, whether the medicines be taken in the stomach, inhaled, or be introduced in the form of enema. If we inject into the veins, a solution of podophyllin, and another of ippecacuanha, the podophyllin will purge, while

the ippecacuanha will vomit. The first and fifth pairs of nerves distributed to the schneiderian membrane, are also highly sensible to certain medicines. If the nostrils are closed, we may inhale, for some time, the fumes of alcohol, or even ammonia, without much effect; but if the schneiderian membrane and its numerous nerves are exposed, the effects are almost immediately experienced. Nerves seem to receive impressions upon their ramifications much more readily than on the body or larger branches of the tract, as is illustrated in the case above noticed; for when inhalation is effected by the mouth, the vapor comes in contact with the fifth pair, and in the throat, with the glassopharyngeal nerves, and yet the impression is slight. One of the most remarkable facts to be here noticed, is, that though impressions of the most powerful kind are transmitted through the nerves, no organic change is made upon them by which we can detect the transmission. The action of hydrocianic acid is so rapid, that we cannot conceive of material organic changes on the nerves involved in its transmission, and anatomical research, after death, fails to detect any noticeable alteration.

Medicines act sympathetically, either by sympathy of continuity or of contiguity. Introduce alcohol in the stomach, and it makes its impression directly on the brain, and is then reflected to all parts of the system. It is transmitted to the brain, and again throughout the system by sympathy of continuity. Administer a cathartic which operates powerfully on the lower intestines, and we stimulate the uterine function by sympathy of contiguity. We then state, as a proposition, that the nerves may be regarded as conductors of influences capable of impressing distant ganglia. We do not usually, and indeed, very rarely, observe two diseased actions, of the same intensity, going on in the system at the same time. Without attempting to explain that mysterious nervaura, which we know to exist, but cannot see, we shall state, upon the authority of observation, that there does not seem to be, in acute disease, a positive increase or diminution of the amount of the nervous fluid in the system. But when an organ or viscus has become a seat

of irritation, there seems to be collected at such locality an undue amount of the nervaura, at the expense of some other organ or viscus, which must there languish for want of its proper stimulation. Thus we have going on in the system at the same time, the opposite phenomena of stimulation and sedation. The nervaura, being a stimulant, must stimulate the function of the viscus upon which it has unduly centered, and the want of the requisite vitalization in some other part, shows what we often see, but do not understand—a healthy organ languishing, when there is present some local disease. It should be the physician's object to distribute this fluid, which may be done by counter irritation or general stimulation, where not much inflammation is present. This is the foundation of revulsion, and, if well understood, will enable the practitioner to control a host of diseased actions.

If a substance is capable of proper divisibility, it will soak through the coats of the veins, and in this way enter the circulation. Chemical reagents detect medicinal substances in the blood, in the saliva, in the urine, and the milk. It requires much less medicine to make its proper impression upon the system, when thus injected into the blood, than when taken first into the stomach. And here, too, we still see the affinity of medicines for certain organs or tissues, strongly manifested. An ordinary dose of wine of ippecacuanha taken into the stomach, requires about twenty minutes to produce emesis, but if one-fourth of the quantity be injected into the veins, emesis occurs in about one-seventh of the time. The precautions to be observed in this kind of medication, are, sufficient fluidity of the substance to be injected, and the evasion of oily or viscid substances, which could not pass the pulmonary capillaries, thus arresting the circulation, and producing death. The phenomena of endosmosis and exosmosis, are full of interest. If we procure a suitable trough, and divide it with an organic membrane, putting serum of blood in one division, and some other liquid in the other, we find that two currents are at once established through the membrane—one from the liquid to the serum, and the other from the serum to the liquid. Experiment shows that

certain concentrated salts cause endosmose, while others arrest it. It appears, also, from careful experiments, that there is carried on endosmosis *from* the serum of the blood to certain solutions contained in the system; e. g., sedlitz water, sulphate of soda, &c. If salts of morphia be then introduced, we may not only arrest endosmose, but set up a contrary current, producing exosmosis. Thus, we account for the action of opium in the treatment of diarrhœa. The cutaneous surface may absorb substances, but not so readily as its prolongations—the mucus membranes. The cuticle itself obstucts absorption, as is illustrated by the greater rapidity with which abraded surfaces absorb—yet it cannot completely prevent the phenomenon. Hence, if we wish to stimulate a nervous tract with strychnia, we first abrade the surface, in order to promote absorption. It has been supposed that this is the manner in which miasma affects the system. We, however, refer the impressions of miasmatic influences, to the schneiderian membrane, or the mucus membrane of the air passages. If vascular fulness exist, absorption is slow, and, vice versa. If the lining membranes of the intestinal canal are greatly irritated or inflamed, absorption is arrested. In Asiatic cholera, there is, generally, considerable irritation of the capillaries of the lining membrane of the intestines, and hence the watery portion of the blood is so diminished that the circulating menstrum acquires too much thickness to pass the smaller capillaries. This phenomena does not depend upon the withdrawal of fluids, for even when water is constantly and freely used, the same thing is seen. When we remember these principles, perhaps we shall not think the strychnine and brandy treatment of cholera patients so unphilosophical as one would at first be led to think. In prescribing, however, the practitioner must constantly bear in mind that between the conditions of the blood and the nervaura, there is a most intimate connexion—either being altered from its natural conditions, may change the condition of the other.

CHAPTER V.

DURING the early history of medical science, the most unbounded credulity respecting the effects of certain medicines prevailed. Numerous specifics were thought to exist; but a more rational practice has shown that such a supposition has little foundation. There can be no specific medication except where a single tissue or organ is affected. This is very seldom the case. As we have already stated, medicines manifest an affinity for special organs, and owing to the intimate sympathy of distant viscera, we commonly find several organs implicated in almost every form of disease, and, of course, we must prescribe those remedies which have a special affinity for all organs implicated. This is the rationale of prescribing remedies in combination. In this way only do specifics occur, and it is only by a knowledge of these facts that we are enabled to prescribe with certainty. In choosing our remedies which are to enter into the compound, we should select those which are most certain and direct in action, and not choose indiscriminately an agent because it belongs to a certain class. The idea that it is the province of pharmacy to multiply remedies, is radically wrong. We must concentrate and select the most reliable. The idea that certain medicines were alone adapted to the treatment of particular diseases, has been pretty generally abandoned.

Medicines are capable of modifying every function of the human organism, either directly or indirectly. The final result, however, is reduced to the effects produced upon the vital properties of contractibility, irritability, and excitability, properties which are seated in every living tissue. In order to secure to these actions a healthy accomplishment, it is necessary that there always be present a certain degree of stimuli. Should

this be either increased or diminished, the vital phenomena is either increased or depressed accordingly, the result of which is disease, and this may occur as well from one condition as from the other. When medicines exalt the vital phenomena, they are called excitants, or stimulants, and those which diminish them are called sedatives. In this sense, medicines are either excitants or sedatives, in all cases. This renders the necessity for proper classification necessary. We shall notice the general therapeutic action of the more important classes, but in doing so, we must remind the reader that brevity is a consideration with us, and that, consequently, our remarks must be more or less dogmatic.

EMETICS are defined to be agents which produce vomiting, independent of their nauseous taste, or the stimulus of quantity. Theories to explain the phenomena of emesis, have been very numerous, and varied in construction. The true cause of vomiting, in our opinion, and which is sustained by good authority, seems to be an impression upon certain nerves, which by reflected action, arouses the excitability and contractility of the muscles of the diaphragm and abdomen. Numerous experiments seem to show that if complete paralysis of these muscles exist, no such thing as emesis can occur. When we administer a proper emetic, the patient soon complains of an indescribable feeling of circumgyration in the region of the stomach, which is soon transmitted to the brain. The vascular system immediately participates, and we notice a copious flow of saliva and sweat. The nervous energy is diminished, and we have a state of debility, termed nausea. When this condition has been maintained for a while, we observe, as the next stage, violent contractions of the diaphragm and abdominal muscles, the result of which is a reverted action of the muscular coat of the stomach, and the ejection of its contents. The force of the pulse is increased, the skin assumes a florid appearance, the vital forces acquire their ordinary vigor, the debility is succeeded by strength, and the patient soon assumes his former condition, or one a little more exalted. It has been stated that if the muscles of the abdomen were paralysed, no such phenomena as those of

emesis would occur; so, too, if certain portions of the brain are diseased, or the nerves of voluntary motion, presiding over the stomach, the diaphragm, and abdominal muscles, be separated, the phenomena of emesis will, also, not occur. Should a patient swallow a large dose of atropa belladonna, fifteen grains of potassio-tartrate of antimony will fail to produce emesis, but if citric or oxalic acid be given with the emetic agent, a much smaller quantity will produce free emesis. In such a case, the emetic agent fails to act, because the brain is paralysed by the narcotic, and its influence must be overcome by some anti-narcotic vegetable acid. From this experiment we derive the conclusion that when a proper dose of ippecacuanha, or any other emetic, fails to produce emesis, we should immediately inquire into the state of the brain. The neglect of this precaution has frequently given rise to dangerous imflammations of the stomach.

Some agents, as sulphate of copper, produce but little nausea before vomiting occurs, while others, as lobelia, nauseate the patient from the time it is taken into the stomach, until emesis occurs. Very commonly, nauseants are more efficient in controlling disease, than emetics. As long as this condition is maintained, we keep up sedation, and thus control internal inflammations. Sedation being closely allied to diaphoresis, we often find sedative nauseants powerfully diaphoretic. In active hemorrhages, dependent upon local hyperemia, mild emetics or nauseants will be found valuable therapeutic agents. Nausea greatly promotes absorption, hence we find them to be invaluable agents in the treatment of dropsical swellings. In cases of poisoning, we must be careful not to promote absorption, and hence we avoid the use of nauseants. When constipations depend upon an irritated condition of the exhalants of the canal, the union of nauseants and cathartics act charmingly, hence we have the rationale of the general applicability of podophyllin to all derangements of the intestinal viscera. If, when the exhalents are irritated, we administer emetics proper, we produce catharto-emesis, and hence that condition must be inquired after by the physician when about to administer active emetics. In rigidity of the osueteri, we may produce relax-

ation, and consequently, dilation, and thus greatly facilitate labor.

In order that emetics may act with promptness, the cerebro-spinal axis must be duly impressed, or be in a condition to recognise an impression, and whatever will make this impression is, to all intents and purposes, an emetic. Emetics remove slight obstructions, but increase them if there is extensive hypemia. The injudicious exhibition of this class of remedies may occasion hernial protrusions, abortion, syncope, and derangement in the function of the heart. Violent retching may produce a jaundiced condition, and gastro-enteritis. This is an extensive and valuable class of agents, and should be well studied.

CATHARTICS may be defined to be agents which, in proper doses, *ceteris paribus*, always increase the number of alvine discharges. The same laws of reaction pertain to this class of agents which we noticed in treating of emetics. The results of cathartic action are not confined to the mucous membrane of the alimentary tube, but react on organs situated at a distance, through the medium of the nerves, and by the changes produced on the circulating fluid. To understand clearly the nature of cathartic action, we must notice briefly the organs and tissues on which this action is exerted. The lining membrane of the small and large intestines is but a prolongation of the mucous membrane of the stomach, and of the supra-diaphramatic portion of the digestive tube, somewhat modified. The mucous membrane of the stomach may be regarded as a mere extension of the general cutaneous surface. The lining of the stomach and intestines is a part of the surface of relation—impressions made on any part of it are conveyed to the nervous centres, with equal rapidity. The mucous membrane of the intestines, &c., is the seat of many important diseases. In it are situated the glands of Lieberkühn, Brunnel, and Peyer, each performing important functions—the two first secreting mucus for lubricating the membrane, while those of Peyer have been, perhaps justly, regarded as the seat of those adynamic fevers which some of the French pathologists referred to the gastro-enteric mucous membrane—these latter glands also secrete putrescent materials

from the blood, and give rise to fecal odor. We generally find them inflamed and even ulcerated in fevers of a typhoid character. The secretions of the liver and pancreas are poured into the upper small intestines, and from their supposed agency in chylosis, these organs have been termed the chylopoetic viscera. Fecal discharges may take place when little or no food has been taken, and as they are of a morbid character, we must remove them in the treatment of febrile affection, since they are capable of inducing just such irritation as would result from the imperfect digestion of alimentary matter. If the secretions from the liver, the pancreas, &c., are suffered to remain in the intestinal canal, they will occasion serious irritation. Thus we must keep the bowels in a soluble condition, whether food has been taken or not. In the large intestines we may sometimes see the folds encumbered by hardened fecal matter, which must be removed, or we get as the result an irritated condition, very unfavorable to health.

The whole intestinal tract is endowed with a sort of oscillatory motion, to which the term peristaltic action has been applied. This is controlled by the ganglionic nerves, which excite the muscular coat of the intestinal tube to contractions.

The intensity of this action is commonly governed by the mode in which the function of digestion is accomplished. Adjacent to this tube there are organs whose functions are subject to modification by the impressions made upon the intestinal canal. Thus we modify the action of the uterus. The effects of cathartics on the intestinal canal will vary according to the different agents and doses selected for exhibition. If the intestinal membrane be only slightly stimulated, chylosis will be augmented, and a laxative tendency induced. If the stimulation be greater, the exhalations will be increased, and the muscular coat, by sympathy of contiguity, will be stimulated, and the peristaltic action will be increased. Thus, the force of the peristaltic movement will always depend upon the stimulation exercised on the mucous coat.

The effects of a mild cathartic may be confined to a mere evacuation of the tube, and but slight general results be ob-

tained. As the first evacuation will mostly consist of the mere contents of the canal, it is always desirable to have a second or third operation, in order to secure the removal of the secretions from the liver, pancreas, and such drinks as may have been taken. The presence of bile in the discharges only proves that the upper portion of the tract has been smartly stimulated, and not that the person is what is usually termed bilious. The special preference manifested by certain cathartics to act on different parts of the intestinal canal, enables us to affect distant organs by arousing the sympathy of relation. Suppose we wish to affect the liver or pancreas, we then administer those cathartics which are known to have a special affinity for the upper intestines, into which the ducts from those glands enter. Or if we wish to stimulate the uterus, we administer some cathartic manifesting a preference for the lower intestines, the colon, &c.

Every portion of the organism is capable of being impressed with cathartics. They are by far the most general, and the most applicable revellents we possess. When given in such quantities as to produce hyper-catharsis, they rapidly reduce the vital powers, which results, no doubt, from the copious exhalation of the serum of the blood consequent upon cathartic action on the lining membrane of the intestines. Their depletive and revulsive character is often illustrated by their sorbefacient qualities in removing dropsical affusions. Some cathartics cause griping pains, some do not; some cause many evacuations, others but few; some leave the bowels in a torpid condition, others leave them in a soluble and invigorated condition.

Cathartics may be divided into three classes—laxatives, purgatives, and drastics. The ancients, less systematic than the moderns, divided the class into hydragogues, phlegmagogues, chologogues, and pentagogues. The hydragogues, it was thought, reduced the watery portions of the blood, the phlegmagogues reduced the phlegm, chologogues diminished the quantity of bile, and the pentagogues reduced all the secretions of the intestinal canal. This seems simple enough, but the theories upon which the division was based are not founded in fact.

Laxatives stimulate very gently the mucous coat of the intestines, augmenting the peristaltic movement only slightly, and are therefore indicated when the object is merely to unload the bowels of their contents. The action of purgatives is identically the same, only they are more powerful, and produce a greater number of evacuations. They produce watery evacuations, and are hence used as depletives in the treatment of febrile and inflammatory affections. Drastics are yet more powerful in action, producing much irritation on the lining membrane of the intestines; which irritation may be also felt in the stomach, and emesis be produced at the same time. The pain accompanying the action of drastic cathartics, arises from the imperfect solubility of the agent employed, and hence we usually administer at the same time some agent which aids their solubility. Cathartics exercise their cathartic properties whether taken in the stomach, by enema, or be injected into the veins, or even if rubbed on the skin. Some agents, as elaterium, are so potent that they act as purgatives in all cases, no matter how small the dose, provided it be enough to produce an evacuation; while others, as manna, will prove only laxative, no matter how large the dose.

The greater the division of the particles of a cathartic, the greater will be the effect of a given amount of the medicine employed. The more soluble the agent employed, the more rapid will be the operation—solutions, therefore, are preferable to pills when we desire a speedy action, and when we administer saline purgatives they should be greatly diluted. In administering very drastic cathartics, it will be well to give them in mucillage of gum arabic, so as, in a measure, to shield the mucous membrane from local irritation. Narcotics modify the action of cathartics by lessening the nervous sensibility; or if there is spasm of the intestinal canal, the influence of an opiate will assist catharsis. In habitual constipation it is not proper to administer drastic cathartics, for although they relieve the bowels of their contents, they will augment the pathological condition upon which the disease depends. Of course, constipation may depend upon a variety of causes, and we must in all

cases endeavor to remove them. It is not unfrequent that tonics become excellent laxatives—the only class of cathartics that ought to be prescribed in the treatment of chronic constipation. The administration of violent drastics, or those which operate on the colon, to pregnant females is inadmissable. Cathartics for the aged should be of a resinous character—those which act slowly and stimulate the system: only the mildest should be used in treating children. Cathartics should be administered when the stomach is empty, as a much smaller quantity will thus be sufficient.

ANTHELMINTICS are agents which not only expel worms from the alimentary canal, but destroy the predisposition to the formation of entozoa within the body. Cathartics become anthelmintics in consequence of the peristaltic action which attends their operation. They are better calculated to cause their evacuation than to destroy them. Mechanical anthelmintics are such, because they increase the peristaltic movement. The most directly poisonous substances to worms seem to be empyreumatic oil and chloride of sodium, and both of these agents are good anthelmintics—the former in destroying, and the other in preventing their formation in the body. Anthelmintics may be divided into four classes, viz.: true anthelmintics, mechanical anthelmintics, anthelmintics of expulsion, and anthelmintics of prevention. The true anthelmintic contains some principle sufficiently poisonous to destroy entozoic life without injuring the human tissues with which it comes in contact. There are very few worm medicines of this class in common use. Empyreumatic oil, in combination with oil of turpentine, seems to possess very nearly the above conditions. The reason why this combination is not more used, is, that its injudicious use would induce the very condition most favorable to the production of worms. Only two mechanical anthelmintics are now in use—tin filings and cowhage. Anthelmintics of expulsion belong also to the class of cathartics; they sweep out the worms when killed, and reduce the gastric functions to a state of health. Most of the brisk cathartics are used as anthelmintics of expulsion. Anthelmintics of prevention are,

after all, the most important, and embrace those which improve chylosis. It has been observed, that where children do not get a sufficient quantity of salt, that worms are readily generated; and the Hollanders formerly had a custom of punishing criminals by feeding them on bread and water alone, and denying them salt. The result was, their bodies were soon filled with the entozoa, which literally eat them up. The practice of the physician must be modified according to the kind of worms to be expelled. More than half the medicines which have considerable reputation as anthelmintics are nearly or quite valueless.

EXPECTORANTS are agents which promote the excretion of mucus or other foreign matter from the lungs and air passages. To understand how this is done, we must know something of the anatomical structure of the parts. We shall, therefore, refer briefly to this subject. The larynx, trachea, and bronchial tubes are lined by a mucous membrane, the function of which is to secrete mucus and perform all offices proper and common to mucous membranes in general. This membrane then secretes the humor of expectoration. The tubes are surrounded by a contractile coat which plays an important part in this phenomenon. At the posterior third pair of nerves, where the cartillages are wanting in the trachea, we find a muscular structure consisting of a thin muscular plane, having transverse fibres passing between the abrupt ends of the cartillaginous rings of the trachea and the bronchia. The office of this muscular tissue is to diminish the calibre of the air tubes in expectoration, the philosophy of which is, that as the tube is thus contracted at the moment of expectoration, the air must pass through them with greater velocity, when coughing occurs, and thus remove from the walls of the tubes any adherent mucus.

The quantity and rapidity with which the matter of expectoration is secreted from the mucous membrane lining the bronchial tubes, bears a positive relation to its condition. The excreted matter is not always, however, secreted from this mucous membrane; for it may be derived from tubercles or ulcer-

ations in the lungs. In acute bronchitis, when there is inflammation of the mucous membrane, the secretions are most commonly nearly or completely arrested. If the inflammation is less violent and more of a chronic character, the secretion from the mucous membrane will be profuse, exhibiting general asthenia, as we see in the bronchitis of aged persons. In acute inflammation we have a very different condition of the membrane from that observed in the latter case, and our treatment must be equally as different. In one case we use antiphlogistics, in the other, local and general excitants. Such agents are indirect expectorants. This class of expectorants are much used. With an inflammatory condition, we use nauseants, in order to facilitate the ejection of sputa. The violent efforts to vomit, often dislodge matter which otherwise is not easily thrown out. We are at present unable to specify any agent which is taken into the circulation, and exerts its influence on the mucous membranes of the bronchial tubes by a special affinity. Such agents may exist, but we do not certainly know them. Hence the word expectorant must be used conventionally. There is no class of agents which is more abused than this. Indirect action is more complicated than direct medicinal action, and as expectorants are indirect in their operation, they are less understood. Until recently, coughs of every variety were medicated by excitant expectorants, and when there was inflammation present, of course more harm than good was done. Demulcents often become our best expectorants, by soothing the mucous membrane in their passage over the top of the larynx, and thus, by sympathy, transmitting the sanitary impression to the adjoining mucous membranes of the bronchia. If we would have this whole subject made plain, in a few words, we have only to admit that the vital electricity or nervaura circulates in certain definite currents through the system, with a velocity that is uniform in health, but which, by any irritation, as that of the bronchial mucous membranes, may be arrested, and the regularity of momentum disturbed. This subtle fluid accumulates at the seat of irritation, and whatever disperses or withdraws it, will, in the same ratio, remove the pathological condi-

tion upon which the disease depends. It may be drawn to the intestinal viscera by cathartics, to the muscular fibres by tonics, to the cutaneous surface by diaphoretics, &c. We have said that we know of no agents which enter the circulation, and then, by a special affinity for the bronchial mucous membranes, exert a sanitary influence. Yet agents may be brought in direct contact with them, by inhalation, which modify, to a considerable extent, their functions. Perhaps the only inhalant expectorant which should be tolerated by the profession, is atmospheric air, mixed with pure oxygen, and this only when it has been ascertained that tubercles have already developed themselves in the lungs.

ERRHINES are defined as agents which increase the discharges from the schneiderian membrane, and cause sneezing. If any irritating substance be brought in contact with the schneiderian membrane, a peculiar sensation is felt through the nerves of general sensibility, which are sent to the nose, and by a reflex action, those muscles which are concerned in the production of the phenomena of sneezing are thrown into inordinate contractions, the effect of which is the ejection of the irritating substance. If the irritating substance be allowed to remain in contact with the membrane, there will be established a centre of fluxion. The secretions of the follicles will be augmented, and if the contact be long maintained, true inflammation will be established. The impressions thus made will be transmitted by sympathy of continuity, and thus the irritation and inflammation will be extended to the whole surface of the mucous membranes which line the nasal passages. This transmission of the impression is clearly seen where the lachrymal glands are so stimulated that the eyes are suffused in tears. The influence is transmitted with great rapidity, and hence it does not follow that inflammation must be set up in order to produce the phenomena incident to the action of errhines. Errhines, by their irritating properties, may get up inflammation, the result of which will be a total suspension of the secretions for a time, but which is followed by a partial ulceration, that gives rise to a profuse discharge. To avoid producing inflammation, we

usually mix the more powerful errhines with some inert powder. Sneezing may always be regarded as the result of an inflamed or irritated condition of the schneiderian membrane. Sialogogues act in the same manner as errhines.

DIURETICS are agents which increase the flow of urine, and is every way an important class of agents. They may be either direct or indirect. Those which may be termed direct diuretics, act by special preference on the kidneys, while indirect diuretics act by augmenting the mass of the circulating fluid, and, as a consequence, the quantity of urine. The pathologist will experience but little difficulty in recognising the indirect diuretics, and the reason why they become such. But at present we may refer to those agents which, independent of the mode by which they are introduced into the system, seek out the kidneys, and exert their special influence on them. A certain quantity of urea must be separated from the blood, or death will be the result. Hence if, in the treatment of acute disease, the urinary secretions are suddenly checked, it is a very unfavorable symptom, because it indicates a revulsion of the natural functions which are not easily restored. There is a mutual dependence between urinary and cutaneous depuration, so that if one be diminished, the other will be proportionally increased. When the urinary depuration has been suspended for a while, it is likely that the excess of urea has been emuncted by the cutaneous system. Such agents as garlic, asparagus, &c., are changed, and indirectly excite diuresis while in the stomach, while oil of turpentine, juniper, &c., pass unchanged to the kidneys, and, by their irritating properties, increase the urinary discharge. Perhaps all vegetable diuretics are separated in the stomach, and the resin retained, while the oil is sent to the kidneys. The same is true of the cantharides—the cantharidin being set free in the stomach, and in this form reaching the kidneys. Diuretics are, in one sense, evacuants, because they remove the more aqueous portions of the blood, and are sometimes thus used where a great accumulation of fluid has taken place in some of the serous cavities. In the treatment of general inflammation or severe forms of fever, we cannot expect

much benefit from this class of agents, because if we centre irritation upon one viscus, organic mischief may supervene. Indirect agents, such as diluents, will be the most obviously proper agents to be used in such cases.

In dropsies, they are valuable agents, and are much used in the treatment of this class of diseases. Dropsies are, however, seldom cured by the exhibition of diuretics alone; but, as collateral agents, they are worthy of our attention. Diuretics may be divided into excitant and sedative diuretics. The former should not be used in inflammatory diseases; the latter are better adapted to the treatment of sthenic conditions. More agents have been brought forward as diuretics, than we have space to catalogue, but it is well to remind the practitioner that at least three-fourths of them are nearly or quite valueless. When we consider how positive are the indications of disease, as manifested by the urine and its deposits, and how important it is to produce changes in its character, we must be surprised at the paucity of materials at our command. Many of the domestic diuretics are among the best we have.

Very closely connected with diuretics are those agents which have been classed as antilithics and lithontriptics, those agents which prevent and also destroy calculus concretions, whether found in the bladder or kidneys. Certain substances, when taken into the stomach, do enter the circulation, from which they are eventually separated by the kidneys, and then eliminated from the system generally by the urinary passage. We shall reconcile chemical and vital action on the urinary deposits when we remember that the deposit itself is foreign to the living system. It is known that the kidneys have a more obtuse sensibility, and carry on their functions with less energy than other glands. Vital action being less concerned in their operations, we most easily explain their functions on chemical and hydraulic principles. To use this class of agents with success, the practitioner must be intimately acquainted with the physiology of urinary secretion—the pathological conditions which give rise to deposits of the various kinds, &c. We find in the urine a number of animal principles—alkaline and earthy

salts, acids, &c., and it constitutes a work of close application to understand them. All works on physiology enable the student to see more of this subject than can be here presented. Were we writing a more extensive work, it would fall within our province to treat this subject at length. American physicians have not paid as much attention to the treatment of urinary deposits as we could wish, and this may be owing to their acknowledged skill in performing lithotomatic operations.

DIAPHORETICS are those agents which increase the exhalations of the cutaneous system. Imperfect diaphoresis may arise from a weak or languid circulation, or increased and excited vascular action. This class of agents seem to act by increasing the force of the circulation, and by relaxing the constricted mouths of the perspiratory vessels. If the cutaneous vessels be heated, their functions will be augmented, and thus we have sweating from exposure to a hot sunshine, while the velocity of the circulation is but little increased. These remarks apply more particularly to a healthy condition of the perspiratory system, for we know that heat, when fever is present, does not always produce sweating. We should class as diaphoretics all agents which increase the cutaneous exhalation, whether they be heat, water, nauseants, excitants or sedatives. It is quite true that these different classes of agents produce the phenomenon of diaphoresis in obedience to causes by no means alike. Stimulating diaphoretics which act by increasing the force of the circulation, must be used with extreme caution; for in inflammation the disease would be augmented, rather than relieved, and the same is true of all febrile affections. A large number of diaphoretics act by entering the circulation, or by making their impression on the stomach and by sympathy, affecting the perspiratory apparatus. It is pretty certain that by means of the, perspiratory vessels, much excrementitious matter is thrown out of the system, for in the wet sheet pack, which is excellent when the patient can bear it, there is evidence of this from the odour experienced in unpacking the patient. It would hence appear that diaphoretics must always be highly important in the treatment of

disease; besides, when we consider the extent of the surface, and the importance of keeping the skin in a healthy state, we shall by no means regard this as an unimportant class of remedies.

NARCOTICS, which we define to be agents that diminish nervous sensibility, and, in appropriate doses, stupify, are but little understood in relation to their mode of operation, notwithstanding their very general use for so many ages. They always excite, and then stupify. When given in appropriate doses, they much resemble sedatives in their action on the system. No matter how large the dose, we always may detect some excitement before the appearance of sedation. The pulse is quickened, and is stronger, the skin becomes warmer and less moist, the impressibility of the nervous system is increased, the fauces become dryer than usual, and their ordinary secretions more tenacious. These symptoms of excitation soon pass off, and are quickly succeeded by evidences of sedation. The breathing is less rapid, the skin moistens, the pulse sinks to its natural standard, or lower, the impressibility of the nervous system is reverted; in short, all the symptoms of sedation are fully established. Sedation follows very closely an excitation when we have administered large doses of a narcotic agent. Brandy is a positive stimulant, yet when taken in very large doses, sedation so rapidly follows, that we observe but little augmentation of the pulse. By lessening the impressibility of the nerves, the functions of innervation and digestion are impaired, hence the well-known fact, that such narcotics as tobacco, allay hunger; hence, too, narcotics do sometimes constipate by indirect action. If the dose administered should be large, the whole function of innervation will be blunted, the secretions much diminished, and even the peristaltic motion of the intestines may be almost entirely suspended. When there is inflammation in any part of the alimentary canal, we consider it proper to administer narcotics, provided the dose be large enough to procure the full sedative effect. When physicians speak of restoring the secretions of an organ by narcotics or any other class of medicines, they can only mean that they wish to remove a pathological

condition upon which the suspension of the secretions depend. We have already stated that the first effect of inflammation on a mucous membrane was a diminution of the common secretions, but which is again increased after the inflammation has existed for a time. This increased secretion is by no means one of health. We thus see that inflammation may, and does induce, two opposite conditions of the secretory functions, and the indications are alike, *i. e.*, to remove the pathological conditions which may be present. This will be effected in either case by a full sedative dose of almost any positive narcotic.

When we administer opium in the treatment of pneumonia, and observe a diminution of the sputa, we may rest assured that the dose was too small. In every case where inflammation is present, small doses of a narcotic will augment the disease, while a full sedative dose might, and most commonly would, relieve it. Many timid physicians, not regarding this principle, are too apt to administer narcotics in small doses, and thus do more harm than good in the treatment of disease of an inflammatory character. We administer narcotics to lessen the number of alvine evacuations, and when constipation is present, dependent upon spasm or inflammation of the peritoneal coat, we also give narcotics to remove the pathological condition upon which the constipation depends. When we apply opium to the dermoid system, its functions are modified. The narcotic exerts its influence on the nervous ramifications; their impressibility is diminished, and the excitement under which they had previously acted is no longer recognised by the brain. The radiations which would otherwise have been felt throughout the nervous system, consequently cease, and thus pain is diminished. In the same way sleep, induced by large doses of narcotics, allays tumultuous action of the nervous system, which could not have continued to exist without greatly adding to the mischief. There are two theories which account for the constitutional action of narcotics on the system. One of these assumes that the narcotic makes its impression upon the nerves of the part with which it comes in contact, and is then transmitted throughout the system, while the other theory

claims that this class of agents impress the nerves distributed to the inner coat of the blood-vessels, or pass with the current of the circulation to the great nervous centres where they exert their special influence. There are facts which support both these theories. The rapidity with which such agents as hydrocyanic exert their influence, seems to be alone explainable by the first theory. There are physicians who incline to the adoption of a middle or accommodative theory, which admits that narcotics act by both impressing the nerves, and by entering the circulation. Many narcotics seem to act most prominently on the part with which they come in contact, as we see illustrated when the fingers are benumbed, by confining with them concentrated hydrocyanic acid in a small glass tube. If we introduce a small quantity of morphia or aconitina between the skin and muscle of the leg of a frog, that leg will be completely paralysed, while the animal continues to use the others, as under ordinary circumstances. We are unable to say why, in such cases, the general system should not be affected. We have, in this class of agents, some striking examples of affinity for certain organs. Belladonna and stramonium, dilate the pupils of the eyes, without materially affecting the system. We admit an inclination, on our part, to adopt the accommodative theory, which teaches that narcotics act through the medium of the nerves, and by being absorbed and taken to the great nervous centres by the circulating currents. Narcotics are to be used, then, as excitants and as sedatives, to diminish nervous impressibility, and to allay excitement. It is astonishing how much habit modifies this class of agents; for the system may become so accustomed to the use of narcotics, that it will be but little affected by very large doses. Cases have been known where persons had consumed, within twenty-four hours, several hundred grains of opium without material present injury. Anesthetics, which much resemble this class of agents in their action, will be noticed hereafter. There is no inquiry more interesting than that which refers to the use and therapeutic effects of tobacco. As our disgust for the filthiness attending its use, has not favored the development of a general

and special knowledge of it, we shall here more particularly bring forward the results of our observation upon the effects of this narcotic agent. To make it clear that this plant stupifies the functions of the base of the brain, we shall bring forward some facts which may be divided into:—

I. Those derived from observed phenomena, after the administration of the drug.

II. Those derived from pathological phenomena, as brought to light by post-mortem examination.

III. Facts inferred from anatomical structure, by which we mean a knowledge of physiological function based upon anatomical researches and information.

IV. Facts derived from effects induced by the administration of narcotics of various kinds, with a special regard to the settlement of this question. The examination of these may be prefaced by a few general principles in medical science—principles which have never been seriously questioned, because they are both easy of demonstration, and accord with human reason, which is unable to discover any want of consistency between the propositions upon which these principles are based, and collateral subjects, which are positive in character.

1. No organ can perform its natural functions healthily, for any length of time, when any part of its natural stimulus is withdrawn.

2. The source of motion, in the animal economy, is the nervaura; the circulation is a secondary motion of a more material fluid, capable of bearing along the materials of deposition, and of taking up and eliminating those unhealthy and worn out particles which are constantly accruing in the system.

3. The nervaura is transmitted throughout the economy by means of the nerves of vitalization, or those, the function of which is to convey impressions to the great nervous centres. The direction of this nervous fluid is *along* the extension of the nerves, not *across*, so that an impression may be conveyed along a fibril, without affecting the whole bundle of nerves found in a sheath.

4. There is a peculiar affinity existing between the nervaura

and the blood, so that where there is collected the greatest amount of the vital agency, there also will be the greatest sanguinous accumulation.

5. The positive amount of nervaura in the body, in the two conditions of health and disease, does not materially differ, there being merely an unequal distribution of the fluid, between the several viscera involved in the phenomena of animation.

6. This unequal distribution of nervaura arises from a corrosion of the nerves, (so to speak) or a part of them, by agents which destroy their power of transmission.

7. The same nerve is affected differently by different agents. A set of nerves may be affected, without involving, primarily, the whole nervous system.

These are a few of the principles which have a direct bearing on the question before us; and, to understand the subject, they must be borne in mind, or we may not perceive the rationality of our assertion, that certain narcotics act especially on the base of the brain. From among the first class of facts, we take the position that the function of a certain organ, located in the base of the brain, is appetite. Many experience a peculiar sensation in the region assigned to this organ, whenever hungry; everybody knows nicotina relieves the sensation in the brain, and blunts the appetite. The region of irritability is in the base of the brain. Persons accustomed to the use of the weed, are very irritable when not under its influence, but become calm and reconciled when under the influence of nicotina. Tobacco, then, allays irritability. The sense of fear is located in the base of the brain. Fear is dispelled by the use of nicotina. The disposition to commit suicide, according to the new neuralogical philosophy, is located in the base of the brain, and it is a well known fact, that inveterate tobacco users seldom commit this piece of folly. Brandy drinkers do so often. The sense of disease, upon the same authority, is located in the base of the brain, and we know that many persons become exceedingly sensitive to the influence of disease in the community, unless under the excitement of nicotina.

From the second class of facts, we may assert that post-mortem examination has shown that persons long accustomed to the use of tobacco, in any of its forms, have the second pair, or optic nerves, near their origin, always more or less irritated, and, in some cases, positively inflamed. These nerves arise from the tubercula quadrigemina, and thalmi nervi optici. The facial nerves, or seventh pair, are often unusually red, and in some cases we observe them shrunken, and altogether abnormal. The glosso-pharyngeal and pneumogastric nerves, which arise from the corpora restiformia, are never fully developed in size in subjects having habituated themselves to the use of tobacco from an early age. A noted Italian writer has reported a case which he dissected, who was supposed to have died from the inordinate use of tobacco, and in whom the tubercula quadrigemina was verging on to disorganization. All dentists tell us that the dental nerves in tobacco chewers, are seldom seen in a healthy state. Snuff takers have always unhealthy conditioned olfactories, and the lower part of the corpora striata is more or less paralysed, in consequence of the impressions transmitted to this body by the olfactories. These nerves all arise from the base of the brain.

From the third class of facts, we derive some important inferences; but to understand them, we must remember that stimulants and narcotics do not act alike, while sedatives and narcotics, in many respects, do. There are few nerves of any importance in the system, the functions of which are entirely unknown. This being a fact, we are enabled to know precisely what nerves are affected by the administration of different medicinal agents. One class of agents are thus known to affect the optic nerves, another the auditory, another the olfactories, and so on; for example, belladonna exerts its influence on the optic nerves, quinia on the auditory, and tobacco on the pneumogastric, prominently. This leads into an examination of the fourth class of facts.

We may here speak of the action of several poisons. Prussic acid acts specially on the inferior laryngeal, or recurrent

nerve, the hypoglossal, and external respiratory of Bell. Hence we have, as the result of its action, a most rapid prostration arising from an impression made on the hypoglossal, and thence conveyed to the corpora pyramadalia and olivaria, which is sent to the pons varoli, and thence transmitted to the heart by means of the inferior laryngeal and recurrent nerves. As nausea and salivation follow its use in moderate cases, we should infer that, if administered in doses very small, its action would be similar to common tobacco. It will be readily perceived that very powerful impressions made on the nerves which we have indicated, would cause immediate death, and such is the result of the administration of large doses of hydrocyanic acid. The action of morphia is not very unlike nicotina, the principal difference being that, while the action of nicotina is more local, that of morphia is more general. Those nations which have long been in the habit of smoking opium, or otherwise using it, have small cerebellums, and generally flat chests. Hyosciamus, when administered in a poisonous dose, acts promptly on the optic and lingual nerves, and hence we have, as its prominent effects, loss of speech and dilation of the pupil. It is the reaction of the agent which produces these results. Belladonna exerts a powerful influence on the whole nervous system, but more prominently on the optic vidian.

Conium maculatum, and cicuta virosa, both make powerful impressions on the system. The cicuta causes extensive venous effusion in the brain. Enantha cracota acts specially on the nerves of voluntary motion. Aconitum nepulus acts on the nerves of sensation, and induces a train of symptoms very opposite to those resulting from the use of the enantha cracota. Helleborus niger acts prominently on the pneumogastric, inferior and superior pharyngeal par vagum, and hence we have, as the prominent symptoms, inflammation of the lungs, stomach, and intestines. Digitalis acts prominently on the pharyngeal nerves. We might cite many others whose action are known, but we deem it useless. The inference, then is, that, certain narcotics control special functions, and somnify the bas-

ilar organs of the brain, a knowledge of which will much assist the practitioner in controlling disease. We do not consider it proper to trace this subject further at the present time.

TETANICS are agents which affect prominently the nerves of voluntary motion. They do not give rise to the ordinary symptoms of acro-narcosis, unless administered in very large doses. Their action seems to be excited specially, and primarily upon the nerves, and secondarily on the irritability of the muscles. They induce involuntary contractions of the voluntary muscles, which sometimes amounts almost to the rigidity of tetanus. Tetanics are used chiefly in the treatment of local paralysis, being nervous stimulants. Some of our best concentrated remedies act as tetanics.

ANTISPASMODICS have claimed much attention from the profession, and yet no such a class of agents exists. Medical writers have proved and disproved their existence so often, that we must lay aside opinion, and resort to observation, to be enabled to write understandingly of this class of agents. The admission of such a class of agents as antispasmodics, has led to much bad practice, and, though we wish to dispute and argue with no one, we feel it our duty to examine the rationality of the theory on which antispasmodics rest their claims. It has been supposed that there are certain medicinal substances, as galbanum, musk, assafœtida, castor, &c., which exert a special control over spasmodic action; but it is evident such agents belong either to narcotics or tonics. Spasm may arise from the most opposite conditions of the body; and hence, many of the agents used as antispasmodics, can be, at best, only relative agents: e. g., spasm may arise from excessive irritability, in which case narcotics would be indicated; or it may arise from debility, when, of course, aromatic stimulants and tonics, would be indicated. We do not at present know of any agent which has a special control over muscular fibre. This whole class of agents are indirect in action. They relieve spasm by equally distributing the nervous fluid. Muscular fibre, like every primary tissue, is possessed of excitability, or the power of being acted on by appropriate stimuli. Thus is motion generated.

This impression is conducted along the nerves which are sent off from the cerebro-spinal axis to the muscular filaments of the voluntary muscles. If any cause of irritation exist in the cerebro-spinal axis, or any nerve which is distributed to a muscle, that irritation may induce the same effect as would be produced by an act of the will. Thus, we see muscles placed under either permanent or alternating contraction. It is therefore evident that spasm is a nervous phenomenon, and remedies directed to its removal, must exert their influence on the nerves, and not on muscular fibre. The whole class of antispasmodics, or those which are so called, exert their influence on the nerves of gustation and olfaction. Any agent which is capable of producing a powerful impression, whether physical or mental, (if such a word may be used,) will relieve spasm. A noted physician, who took this view of the subject, used to cure his epileptic patients by threatening to thrust a hot poker down their throats. It is thus, too, that animal magnetism does sometimes cure epilepsy and similar diseases. Yet physicians content themselves by supposing all is to be accounted for by getting the confidence of the patient, without inquiring *how* this confidence cures.

EMMENAGOGUES are defined to be agents which promote the menstrual discharge. If it be intended by the above definition to convey the idea that we know of agents which manifest a special affinity for the menstrual organs, we do not hesitate to reject the name, and say we have no such class of agents. What we class as emmenagogues, are agents which act indirectly. Suppressed menstruation results from a morbid condition of the body, and if this morbid condition be removed, the menstrual functions will be restored. If we admit the term emmenagogue, we should use it in a conventional sense, and always bear in mind that agents which promote the menstrual flow do so either by exciting neighboring parts, or by removing the pathological condition upon which the suppression depends.

PARTURAFACIENTS are agents which act specially on the uterine fibres, and thus increase the parturient effort. They act by stimulating the nerves sent to those parts concerned in

the phenomenon. Until within fifty years, we knew of no such agent, and when we increased the contractions of the uterus by medicine, we did so by an indirect system of medication. Now we have several agents in high favor, as abortines, or parturifacients, of which we shall speak hereafter.

EXCITANTS are agents which irritate, and augment the vitality of various organs. It was formerly believed that almost every disease resulted from debility; and though the doctrine is now received only to a limited extent, there is but little doubt in our minds that the vital manifestations of a part may be much enfeebled by pathological conditions, and that medicinal agents will be required in the treatment of such diseases, that are capable of rousing the torpid organism to increased action. When the practitioner perceives great debility in an organ, he will not immediately conclude, if he be a philosophical man, that there is a loss of vital energy from the system; but will inquire whether there may not exist, at the same time, augmented action in some other organ or viscus. Without entering into a general consideration of this subject, we have only to remember, in the administration of excitants, that all inflamed surfaces will be still more inflamed if excitants be brought to bear on them, and we fear that disease is thus too often augmented in place of being relieved.

TONICS are really only permanent excitants, whose action, while more durable, is less rapid than that of excitants. Tonics are agents which tone up the system, and indirectly give strength to muscular fibre. The excitation which they get up in the system is very gentle, and the reaction is scarcely perceptible. When excitants are withdrawn from a system under their influence, depression and prostration rapidly supervene. The reaction of excitation is debility, and the reaction of debilitants is excitation. Tonics occupy a medium position between these. The primary action of tonics, which is gentle, has the advantage of a permanency sufficient to confer increased vital energy to the nervous system, the result of which is a strengthening of the muscular fibre. As before stated, we have no known agent which has a special affinity for muscular fibre.

Tonics, for convenience, have been divided into direct and indirect tonics. They belong mostly to the latter class, and, give tone to the system by inducing an influx of nervous energy. They act, then, primarily on the nerves, and increase the strength of the muscle by augmenting fibrous contractility. When thus viewed, we must regard as tonics all agents which improve the general health. We have good examples of the effects of augmented nervous energy over the muscles, in the opposite states of nostalgia and insanity. Under the gentle excitation of tonics, all the capillaries are slightly augmented in their action, nutrition is improved, and a sufficiency of nervous energy is induced to insure a healthy condition of the system. All tonics are obscurely stimulant. Many tonics first enter the circulation, and by changing the character of the circulating medium tone up the system. From the very name of tonics, we cannot expect to derive immediate benefit from their use. The first effects we observe are, increased appetite, augmented nervous impressibility, increased velocity and power of the circulating fluid, buoyancy of intellect, and increase of muscular power. Unlike other agents, they may be safely administered in all cases, and for this reason physicians often use them. We should be careful in administering crude vegetable tonics, not to encumber the stomach with useless indigestible matter, for we may thus induce serious irritation. It is for this reason that the concentrated vegetable tonics are so much prized by practitioners. There are simple tonics, nearly tasteless, bitter tonics, astringent tonics, excitant tonics, &c.; and of course every physician will use that combination best suited to the case he has in hand. This is by far the most extensive class of agents we possess.

ASTRINGENTS are defined to be agents which produce contraction or condensation in the tissues of organs, whether endowed with vital influence or not. They are used internally, either for acting upon the parts with which they come in contact, or indirectly upon distant parts; or they may be used externally, with the view to arrest hemorrhage, when they are called styptics. The action of styptics may be chemical or

mechanical; chemically, they coagulate the blood which is exuding from a part, and at the same time stimulate the tissue to contraction, while mechanical styptics detain the blood in the meshes of the tissue, or absorb it until it coagulates, and thus checks the hemorrhage. Astringents are readily known, by imparting a sense of roughness to the tongue, and so peculiar as not to be mistaken. Vegetable astringents, generally, depend on the presence of tannin, for their virtues. To this department of the materia medica, the vegetable kingdom contributes largely. They act locally on the part with which they come in contact, or the excitation upon which the constriction depends may be communicated to other parts, as in the case of tonics. Astringents are often absorbed, taken into the circulation, and carried to the bleeding part. The facts which support this view are quite numerous. But, notwithstanding our familiarity with this class of agents, it is quite difficult to give a sufficient explanation of the mode in which they act. We shall not argue the rationality of our belief in passive hemorrhage, but assert that hemorrhages may be of two kinds—active and passive. We have already shown how opium acts, indirectly, as an astringent. In treating of special astringents, we shall point out the indications for them, and name the conditions of the system in which we think their use can do no good. They combine with many other classes, and in this way are often employed. Speaking in general terms, we are justified in saying, that astringents, when administered internally, appear to moderate the morbidly increased secretions of distant parts, and to restrain hemorrhage by exerting an influence upon the prima viæ, which is extended sympathetically to the more remote capillaries. Such is the opinion of high authority, and our experience sustains the view. As hemorrhage and undue discharges may arise from the most opposite conditions of the body, so may the agents which are used, as indirect astringents, be of the most opposite kind.

SEDATIVES are agents which diminish the vital forces of the organism, and debilitate. Of the exact nature of the impression which sedatives make upon the nerves, we know little or

nothing. The most careful examination, and anatomical research, together with microscopic investigation, has, thus far, failed to detect the least change in the tissue of the nerves themselves. Sedatives are also direct and indirect agents, and as so many substances are capable of lessening the vital manifestations, we must at once recognise the extent of the class. The direct sedatives primarily impress the nerves, while the indirect sedatives act through the medium of the vascular system. To understand the nature of the whole class, we have only to remember the character of excitants and stimulants, and know that sedatives operate exactly opposite; the two classes, in medicinal doses, being incompatible, in a therapeutic sense. This class of agents, rightly applied, does what the lancet proposes to do. It embraces the most powerful poisons, and if we are not cautious in their use, most of them are capable of so depressing the vital forces, that reaction is quite impossible.

REVELLENTS, which are the most important remedies in the materia medica, are defined to be agents, which, by producing modified action in some organ or texture, modify the morbid action by some other organ or texture. This is called, in therapeutics, revulsion, and when applied to a particular locality, draws to such part an undue amount of nervaura or vital energy, thus lessening its accumulation on some other viscus or part. There is no class of agents with which the practitioner can effect more than with the one under consideration; and this is apparent when we remember that it embraces almost every other class of remedies. Revellents, as such, are most commonly prescribed by practitioners to withdraw from deep seated organs, any irritation which may have centered on them to the surface, where the new pathological state, induced by artificial means, may be combatted, and, at the same time, relieve a congested organ located deeply within the body. From what has been written, one would think that rubefacient, suppurative, escharotic, and cutaneous revellents alone, had engaged the attention of practitioners. We have already often spoken of the equal or unequal distribution of the vital force

or nervaura, or what is more commonly called vis vitæ; and, as we wish to clear our positions, we shall beg to argue the rationality of our supposition, by a few plain questions, which would likely arise in the mind of any honest practitioner:

1. Is there such a motive power in the system as the nervaura?

2. Is this nervaura under the control of remedial agents?

3. In what manner is this control of remedial agents over the nervous currents, to be explained, and how shall we apply this life principle to the eradication of human disease?

Be it our task to answer these questions, in a spirit of candor and liberality. That such a power as the nervaura does reside in the system, seems to be fully demonstrated by the rapidity with which certain impressions are transmitted throughout the economy. The circulating fluids do not pass from the extremities to the central portions of the body, or from the heart to the capillaries, with velocity sufficient to convey the impressions which we observe. We know that the system is influenced by external circumstances—by contact with certain bodies, which do not come in positive contact with the circulating fluid. If we inflict a blow on the foot, the impression is sent to the brain, in a time altogether too short for measurement. It would thus seem that there *is* in the body, a fluid more subtle and rapid in its circulation than the blood. Indeed, it would be difficult to find a physiologist who would, in toto, deny the existence of the nervaura in the body; and we shall take it for granted, and proceed to inquire whether this force, for so we must term it, resides in muscular fibre. It certainly does not, as there is no positive connexion between muscles located on the hand, and those located on the foot. Nor can such impressions be transmitted, except very slowly, by the cuticle. But we find emanating from the brain, a columnar mass of nervous matter, branching and dividing into other more minute branches and divisions, which are again and again divided and ramified over the whole system, so that there does not remain a single point, where even the point of a pin can be introduced without touching one or more of those minute ramifications. Now then,

the question arises, is this apparatus, this nervous envelope, the only one which is capable of conveying impressions throughout the body? Negatively, we answer yes; because we know of no other function of this apparatus, and because it is the only part of the animal economy that is perfectly connected with every other part. It is adapted to the conveyance of a subtle fluid, and where one thing exists and is adapted to another, the other exists or has existed. Impressions are certainly conveyed from one part of the system to another; and as the nervous system is the only apparatus adapted to the transmission of influences, such as have been pointed out, we ask, by what system of argument this negative position is to be denied. But there is an affirmative side to this question; and we adduce, as its prominent arguments, that if the divisions of this nervous apparatus, which ramify into the leg or arm, be separated, so that no connexion shall be maintained by the nerves, impressions made on the arm or leg will be no longer transmitted to the brain, the centre of sensation. Or, if the same apparatus be corroded by the action of poisons, or medicines in poisonous doses, the transmission of impressions is likewise cut off. This has been demonstrated by actual experiment, over and again.

In the second place, we wish to answer the inquiry, is this power—this vital force—under the control of remedial agents? No impediment could be opposed to its speedy passage throughout the system, even by the most powerful narcotic poisons, which we have seen, from statements above, to be able to paralyze a limb, or even the whole system. No impressions would be recognised, unless external agents, by contact with this delicate apparatus, were capable of producing modification in the currents of force, which we have shown to pervade the economy, and the phenomena of local congestion, irritation, or inflammation would not exist. We know, positively, that, under all these conditions, not only is this vital force augmented, accumulated, and concentrated in the fluxions, during irritation, inflammation, or congestion; but we know, equally well, that the augmentation does, under such circumstances, withdraw

from other positions where this current is circulating uninterruptedly, so much of the nervous force as to exactly supply the augmented or increased quantity existing at the seat of disease, and there is no reason to suppose that there is an augmentation or diminution of the nervous force in the system. It is the concentration or unequal distribution of this nervaura, which causes disease and death. Equilibrium and harmony of action are just as necessary in maintaining proper functional relation between the human organism, as they are to the nice adjustment and ballancing of the immense worlds and systems of the physical universe. Blindness, inflammation of particular viscera, neuralgia, erysipelatous affections of the scalp, &c., have been readily dissipated by the accidental induction of irritation or inflammation on the leg, or some other part of the body. Aloetic preparations, by irritating the rectum, have, again and again, cured pseudo-phthisical affections. Inflammation of the intestines, is often cured by external irritation; indigestion, cured by a seaton on the back of the neck; deafness, by the fracture of a limb, &c. It is therefore evident, that this vital force may be controlled by remedial agents.

But, in what manner is this power of remedial agents on the direction of the nervous currents, to be explained, and how shall we apply this force of human vitalization to the eradication of disease? It is impossible for the mind to perceive agents more subtle than itself; but, while we cannot see and demonstrate to others the existence of this subtle fluid, we can all see the effects which it produces in the exercise of its functions, and thus be enabled to learn something of its nature. As the mind becomes more refined, it will be more enabled to not only understand itself, but to perceive the causes which give rise to the visible phenomena incident to life, organic action, and functional relation.

The nervous apparatus, as before stated, forms a perfect connexion between every part of the body, and constitutes a circuit, over which the nervaura or nervous fluid circulates in perfect order and harmony, vitalizing and recuperating deficiencies, by exciting a proper circulation of the blood, which, in

turn, repairs losses, and keeps up a yet more languid and more obscure circulation of the glandular system, and, it may be, other systems of rotation, of which we at present know little or nothing. If we admit the rotation or circulation of this nervous current, we at once see how revellents act, and how they may control this subtle principle, upon the proper or improper distribution of which depends the states of health and disease. In the use of revellents, we must be careful to make an impression which is counter to the one we wish to remove; and it matters little whether this be done with cathartics, astringents, sedatives, stimulants, tonics, or emetics, the principle of cure is the same.

EUTROPICS, or alteratives, are medicines which, if taken into the system in small doses, act upon morbid structures and conditions, so as to occasion their reflux, without, at the same time, producing sensible evacuations. But, in admitting such a class of agents, we must be very cautious or we shall give to medicines the credit of doing what is done by the simple recuperative powers of the system. It will be seen at once why it must be difficult to determine positively the action of a medicine producing no sensible evacuation from the body. In defining eutropics, it would perhaps be as well to say, they are agents which modify the functions of the body, either by changing the character of the blood, or changing the nervous currents. Eutropics which, to prevent mistakes, will hereafter be called alteratives, act both upon the nerves and upon the blood and glandular circulation. If certain agents of a poisonous character be given for a time, in small doses, in the treatment of obstinate cutaneous diseases, the eruption will gradually disappear, and in the course of a few months the parts will be restored to a state of health. In the treatment of such a case, we do not observe a positive evacuation from the system, and we say the good results have been brought about by an alterative agency. It would seem that, under such circumstances, the administered agent had impressed its chemical properties upon the blood, thus modifying the system of nutrition, getting up a new and increased action in the capillaries, equally distribu

ting the vital forces, and thus enabling the powers of the system to combat the pathological state. At a former period, it was believed that all diseases might be cured by changing the character of the blood, and hence arose a custom of injecting various substances into it. Every physician of intelligence must see, that, in order to comprehend the action of alteratives, we must bear in mind the great principles which we have referred to in treating of revellents. Many of the agents employed as revellents, in the treatment of protracted disease, are purely alteratives; such, for instance, as iodine. There have been many books written to explain the action of this class of medicines, and to them the reader is referred, as our space does not admit of a more extensive notice at this place. Some of the best and most reliable agents in the positive materia medica, belong to this class, and in treating especially of them, we shall say more of their therapeutic value and application. It is not necessary for us to here notice antacids, demulcents, &c., since we do not wish it understood that we are writing a general treatise on therapeutics. What we have written, we deemed necessary to the due comprehension of the remarks and facts which will be brought forward in treating the positive agents of the materia medica. We claim but little originality in what has been or may be advanced, except in so far as we have condensed and brought out clearly, some of the more obscure subjects in medical science.

We are to expect that exceptions will be taken to the work before us, and even to the remarks which we have already made; but as we are not writing to please a party, we shall only claim as our defense, should any be required, an honest and full investigation of what is advanced. Let public or professional opinion be what it may, we assure our readers that the writer is entirely untramelled, and at liberty to speak as he may deem proper, and that he is determined to treat candidly of agents, and recommend them only so far as they have been tested. We shall not treat of the concentrated preparations, either in classes or alphabetically, for the plain reason that the American Chemical Institute is constantly swelling the list of

the concentrated preparations, which will be added and described in each succeeding edition. The perfect construction of our table of contents and index, will enable the reader to turn readily to any subject or agent.

PART II.

CONCENTRATED PREPARATIONS.

GERANIN.

THIS is a resinoid. It is obtained from the Geranium maculatum (Geraniaceæ,) commonly called Alum root, Crowfoot, Crane'sbill, &c. There are numerous varieties of the Geranium, but as it is our object to confine ourselves to a description and history of the properties and uses of the *active principles*, or concentrated forms of medical plants, we shall make but short references to the general history of the plants from which they are derived. The botanical history of the Geranium maculatum may be gleaned from any good work on medical botany. The Geranium maculatum has been long in use by the profession, and is a common domestic remedy throughout the country. It contains several acids, among which the tannic seems to predominate. As an astringent, the crude article is as good as kino or rhatany.

GERANIN, the concentrated preparation, has not been so long in use, and, as a medicine, is comparatively unknown to the profession. It is a reddish brown powder, possessing a pleasant aromatic odor, and a decidedly astringent taste, with but little, if any, bitterness. It evidently does not depend entirely on the presence of either tannic or gallic acids for its therapeutic virtues, as do most of the vegetable astringents in the crude form. The geranin is exceedingly convenient, as there is no unpleasant taste to it, and patients readily take the largest dose,

which may be made into a small pill. The tannin of this preparation is imparted to water, but the resin, in which is combined its medical properties, is but little affected by cold water, alcohol, muriatic acid, ether, chloroform, or fixed oils; but in a solution of potassa it is perfectly dissolved. The action of Geranin is very different from most other vegetable astringents. While tannin leaves the fauces in a dry, constricted condition, Geranin exerts its astringent influence, tones up the secretory organs, stimulates the mucous membrane of the fauces, facilitates the ejection of sputa, and leaves the mucous membrane of the fauces in a moist and healthy condition. Geranin, as prepared by the American Chemical Institute, (582 Houston Street, N. Y.,) is not only an astringent, of the most reliable kind, but it combines several principles, which alone explains its peculiar efficacy in the treatment of certain diseases. It is indicated wherever astringents are needed, and may be relied on often where tannin has failed to arrest the hemorrhage, or other discharge requiring its exhibition. It is a medicine which may be used internally or externally, in solution, in powder or pill, as an ointment, or in the form of a syrup, with a certainty of obtaining the most positive and highly satisfactory results. If the reader will refer to what we said of astringents, in the first part of this work, he cannot fail to understand the principles by which he is to be governed in their administration. From the peculiar character of astringents, the only difficulty arising from a large dose, would be the production of emesis, which, in certain hemorrhagic conditions, must be avoided. The universal sentiment among those who have used the Geranin is, that it is a reliable and positive agent, which is preferable to any known astringent now in use. This is the only astringent which may be long continued as such, without breeding mischief in the body of the patient, for, while it restrains inordinate discharges, either of blood or mucous, it tones up and removes the pathological condition on which the hemorrhage or discharge depends. Over slightly inflamed mucous surfaces, it exercises a peculiar beneficial effect, and in the secondary stages of intestinal inflammation, where the mucous surface is

freely discharging matter of an unhealthy character, this agent has thus far given, not only in our own hands, but to every one who has used it, entire satisfaction. Its difficult solubility renders it peculiarly adapted to the treatment of hematuria, for which it has been extensively prescribed. So, too, it is well adapted to the treatment of apthous sore mouth, and, as a gargle in sore throat, which, if it be of the putrid kind, may be made to yield more readily if Myricin and Xanthoxylin be added to the Geranin. As a wash, in cases of Ptyalism, and for unhealthy conditioned ulcers, the Geranin is an excellent remedy. A weak solution thrown in upon the eye, in cases of slight inflammation, will be found very beneficial. A Geranin ointment may be made, (for which a formula will be given,) and applied externally in the treatment of piles.

But the beauty of its action is nowhere better seen than in treating dysentery, diarrhœa, and cholera morbus. As our practice and experience, and the practice and experience of others has been highly satisfactory in the treatment of those diseases, we may select dysentery as a proper disease to test its powers. Perhaps no form of inflammation has bothered physicians more than that which gives rise to dysentery, and yet, when properly treated, dysentery is really a controllable disease, and the physician who loses more than four per cent. of his patients, has just reason to complain of his want of success. It is well known that dysentery, by which we mean bloody flux, as it is called in the community, and which is only a diarrhœa accompanied by hemorrhage, mucous, tenesmus and fever, may arise from a variety of causes; anything which tends to irritate the large intestines and colon, or even the rectum, and thus generating true inflammation, may cause or predispose to dysentery. This form of disease prevails, to an alarming extent, in many sections of our country, and the mortality attendant upon it, in some portions of the United States, where the conditions are all favorable to health, is positively disgraceful. And this want of success in the treatment of a simple disease, is to be explained by two circumstances—the want,

heretofore, of proper remedies, and a lack of correct information regarding the pathology of the disease.

As dysentery may arise from so many different causes, it is first of all, the physician's duty to ferret out the cause of intestinal irritation, and then prescribe accordingly. Too many, when called to a patient discharging blood, bloody mucous, mucous or a sero-sanguinous fluid, whether the stools contain fecal matter or not, immediately administer astringents and narcotics, thinking to thus check up the disease at once; hence, the fearful mortality attending the disease. Let us for a moment see what are the indications, and thus, judging from the causes of the disease, learn whether our practice, which is so unsuccessful, or has heretofore been, has been based upon correct ideas and principles. The liver is almost always torpid, yet sometimes, in what is called bilious dysentery, there is an excessive discharge of bile. The acridness of the secretions thus becomes an irritant upon the mucous surface, giving rise to inflammation and hemorrhage. Under such circumstances, the administration of Podophyllin, Leptandrin, &c., (cathartics,) not Geranin, Tannin, Opium, &c., (astringents,) are indicated, for astringents would, from the start, add to the mischief, retaining in the intestinal canal, the irritating secretions. When the disease is of an adynamic or typhoid character, we must rely as much upon tonics as upon astringents, and for such a purpose the Geranin offers a combination unequalled; a combination of astringency, tonicity and sedation, which may, in case the inflammation demands it, be much improved by the addition of a little sanguinarin. If the dysentery has resulted from cold or exposure, it should be the first care of the physician to restore the perspiratory function, by Diaphoretics. If the stomach be overloaded with acrid matter, and there is nausea, it will be proper to give a free emetic—Lobelin or Sanguinarin. There are so many phases of the disease, and so many functions become deranged by its ravages upon the intestinal viscera, that it is almost impossible to give formulas for combatting all the indications. If the liver is torpid, or there are acrid secretions present; the discharges mucine, bloody, very liquid,

offensive, much tormina, and stools frequent; the skin dry, the tongue covered with a whitish or yellowish fur, the eyes sunken, pulse full and quick, feet cold, and the patient restless, urine scanty and high colored, we should have no hesitancy in adopting the following plan of treatment, which has proved eminently successful, not only in our hands, but in the practice of others:

Podophyllin,
Leptandrin,
Xanthoxylin,
GERANIN,
Lupulin,
Stillingin,
Senecin.

The amount of each agent must depend upon the symptoms present, and the age, sex, constitution, &c., of the patient. We should continue this prescription until we had removed the acrid secretions, and moistened the skin; until the urinary discharge was less colored, and more copious; until we were satisfied the primary cause of the disease had been removed. We should then change our formula, making it thus:

GERANIN,
Leptandrin,
Helonin,
Lupulin.

With this, we should expect to stop the discharges of blood and mucous, and should continue it until we were satisfied that the liver was performing its functions properly. We should then change our formula thus:

GERANIN,
Hydrastine,
Apocynin.

It will be necessary to give freely, during the treatment of this disease, mucilaginous drinks, to sponge the body, and avoid all improper diet, or exposure to sudden vicissitude of temperature. It is very evident that we cannot here say how much of each article shall be given, nor how often. The practitioner

must be the judge, and prescribe according to the indications. We wish the reader to bear this in mind; for the remarks apply to every formula which we may give. We shall give the medium dose for an adult, of each of the Concentrated Remedies of which we shall treat, and the practitioner must be governed accordingly. We have no faith in recipe practice; but in the science of combining medicinal agents, we have the utmost confidence, and we hope that we have made this sufficiently clear, in the first part of this work. In prescribing a number of agents, a physician should be a master of his art, or it will not require much effort to detect the most positive blunders in his formulas. To be a good prescriber, is to be well versed in physiology, pathology, therapeutics, and in the materia medica. To read the symptoms of disease correctly, one must have had more or less practice.

Geranin, the agent under consideration, may be given in the form of pill, or in syrup, most appropriately, either alone or combined. It is a safe medicine, and there need be no hesitancy in prescribing it, where astringents are admissable. (See pp. 83–4.) FIVE grains is the medium dose for an adult. When administering it for the suppression of intestinal evacuations, whether in diarrhœa or dysentery, we think it best to give one grain an hour, until the discharges have been arrested. If the discharges are very profuse, as in cholera morbus, we may give it in four or five, or even six grain doses, in proper combination, until the object has been gained. This resinoid, as prepared at the American Chemical Institute, is about one-third heavier than good powdered Ipecacuanha. Those who use the Concentrated Preparations, had better weigh each article, until they become familiar with the weight of them. Many articles should never be administered without being first weighed; for, as they are powerful and certain in their effects, much mischief may be done by the addition of a su-

HYDRASTIN.

THIS is a resinoid which is obtained from the Hydrastis Canadensis, (Ranunculaceæ,) known in common parlance, as Yellow puccoon, Yellow paint, Indian dye, Golden seal, &c. It is found in most parts of the United States, but especially on the northern slope of the Alleghanies. It is found in dark, damp, rich woodland, and, owing to the bright, yellow color of the root, cannot be easily mistaken. The Hydrastis has been long in use among the western Indians, both as a medicine and as a dye. The medical properties of the plant depend on the presence of a resinous principle (Hydrastin,) and an alkaline substance (Hydrastine,) the latter of which will be noticed in the next article. For preparing the Hydrastin, there are several processes, all of which may be good. We can judge only by articles furnished, and do not hesitate to say that, of all the specimens before us, those prepared at the American Chemical Institute are to us far preferable. Our individual opinion can here be worth but little; but the article speaks for itself, and has, we believe, given entire satisfaction, wherever it has been used. It is only recently that the attention of the profession has been called to the peculiar therapeutic value of Hydrastis, in the treatment of numerous forms of disease, which will be hereafter noticed.

HYDRASTIN is a heavy powder, of a delicate straw color, perfectly dry, unless suffered to remain long exposed to a damp atmosphere or a warm temperature. When pure, it does not adhere to the sides of the bottle in which it is contained. It has the peculiar odor of the Hydrastis Canadensis, and a pure

bitter taste, which is very permanent. The Hydrastin is a pure bitter tonic, possessing all the laxative properties of the root, but without exhibiting the same peculiar curative power over ulcerated mucous membranes, as the Hydrastis. To make it more effective on mucous membranes, it should be associated with Hydrastine, of which we shall treat hereafter. The Hydrastin is indicated wherever a simple, pure, bitter tonic is needed, and may be employed in all adynamic or sthenic conditions of the system. The dose of the Hydrastin is THREE grains. It will be borne in mind that the Hydrastin is *laxative* and tonic, and therefore of all agents, the best adapted to the treatment of habitual constipation, especially as it occurs in old persons, whose bowels are constipated in consequence of torpor of the liver, or lassitude of the nervous system. A good formula for its exhibition in the treatment of chronic constipation, would be:

HYDRASTIN,
Leptandrin,
Xanthoxylin,
Asclepin,

made into pills, and one taken each night on retiring to bed. As we shall have to speak of this agent often in the succeeding pages, we pass to the other principle of the Hydrastis Canadensis, and shall endeavor to give several formulas for the use of both the Hydrastin and the Hydrastine. As the reader may wish to know why we name these distinct principles so nearly alike, it may not be improper to give the required information at this point. In attaching names to active principles, there has been, heretofore, very little system or unanimity; the whole process being purely arbitrary. The resinoids, and alkaloids, being clearly distinct, and yet often derived from the same plant, it has been thought best to give the generic names of the plant to the active or concentrated principles, ending them in "IN" when the active principle is of a resinoid character, and in "INE" when of an alkaloid character; thus we have Hydrastin, a resinoid; and Hydrastine, an alkaloid. We do not call these principles vegetable resins or alkalis, because they

contain something in addition to the resin and alkali of plants; but, as they are either resinous or alkaline, we have thought it best to end the two distinguishing words in "OID;" thus, from a resinous substance, we have resinoid, and from an alkaline body, we have alkaloid. This arrangement is simple, convenient, and safe; and whoever adopted this terminology, to our minds, acted wisely.

HYDRASTINE.

This is the alkaloid principle of Hydrastis [illegible] (Ranunculaceæ). Good descriptions of the Hydrastis will be found in most works on medical botany. The [illegible] differs from the Hydrastin, very much in every particular. It is soluble in water, alcohol, and ether, while the [illegible] is only sparingly soluble. The Hydrastine is a white crystalline body, which is a very bitter poison, killing in minute doses. The bitter is turned round as in the similar principle of Cinchona, Quinine. The taste is similar to a decoction of the root, but less bitter: the bitterness is the greatest sensation, a little [illegible] taken on the tongue is visible, but it has a burning taste. The Hydrastin makes a permanent impression.

The [illegible] is an [illegible] body, [illegible] which [illegible] the [illegible] [illegible] [illegible]

But here we beg to say to the reader, we do not pretend to have fully learned the worth of this agent, for the Hydrastine has only recently been introduced to the notice of the profession. Quite a number of eminent practitioners have used the Hydrastine, and thus far it has given the best satisfaction, yet we believe much is yet to be learned of this valuable concentrated agent. The Hydrastin, (the resinoid,) by no means gave satisfaction to those who were familiar with the therapeutic effects of the Hydrastis. For a long while this was inexplicable, but as soon as the Hydrastine was discovered, the mystery was solved. We consider this discovery, as one of vast importance to the interest of diseased humanity, and a positive medication. It may be possible that we overrate its value, but we feel justified in all we have or shall say of it, by the vast amount of evidence in its favor now before us; and we shall not hesitate to recommend it to the profession.

In the use of Hydrastine, the practitioner is constantly reminded of Sulphate of Quinia. Chemically considered, it does not greatly differ from Quinia, and many of the symptoms which arise from its administration in over doses, are identically the same as those which result from over doses of the Quinia. When given in over doses, it produces that sense of tightness, buzzing or ringing in the ears, &c. It is a powerful cerebral stimulant, and would be contra-indicated wherever there was a tendency to irritation or inflammation of the brain. Like Quinia, it is capable of reducing the pulse, and of producing the general symptoms of sedation. As this result arises from a reaction of stimulation, we must not think that Hydrastine is positively a sedative, or we may be led into the most grievous errors in practice. But these are the effects of poisonous doses, and do not follow the legitimate use of the agent in medicinal doses. When taken in the stomach, Hydrastine diffuses a genial warmth throughout the epigastric region; but, in proper doses and combination, has never, thus far, been known to irritate the stomach or intestines, as both Cinchona and Quinia sometimes do. While, also, Cinchona sometimes purges, the Hydrastine never does, being considerably astringent, and thus

not adapted to the treatment of disease requiring a soluble condition of the bowels, unless it is combined with some laxative agent. When given in proper doses, all the functions are augmented; even the pulse rising, in place of sinking, as when very large doses have been administered. While it thus excites, its effects are permanent, and hence it is a true tonic. In typhoidous fevers, where the system is sinking, and there is considerable irritation, or, as is sometimes the case, a gangrenous condition, with colliquative sweats and diarrhœa, we may use the following combination, with the greatest advantage:

HYDRASTINE,
Geranin,
Cypripedin,
Gelsemin,
Xanthoxylin.

In the treatment of long standing dyspepsia, where the powers of chylosis are greatly impaired, and the system greatly debilitated, we may employ the following formula:

HYDRASTINE,
Leptandrin,
Chelonin,
Scutellarin.

In vaginal irritation, and even uterine ulceration, where the neck only is involved, a solution of Hydrastine and Geranin, will often effect a cure. The same combination may also be successfully employed in the treatment of piles; and in malignant fluxes, involving the mucous coats of the colon, we will be enabled to do much good by injecting the same solution, and at the same time giving the proper remedies internally. In short, wherever astringent tonics are indicated, this agent may be employed.

In the treatment of intermittent fevers, the Hydrastine has given the utmost satisfaction. If the practitioner is called to take charge of a patient during the forming stage of intermittent fever, he will experience but little trouble in warding off the attack by the judicious use of the Hydrastine. For this pur-

pose, *i. e.*, to prevent the development of intermittent fever, the following combination would be highly useful, and generally successful:

Podophyllin,
HYDRASTINE,
Leptandrin,
Senecin.

By making a pill, composed as above, with a judicious regimen and avoidance of exposure, almost any intermittent fever may be cut short almost immediately. Of course, in saying how much of each agent shall be given, we should speak only conventionally. The physician would have to be governed entirely by the symptoms, &c., of the particular case which he had in hand. When the disease has been fully formed, as is most generally the case, before the practitioner has been called, his medication must be prompt, and his agents well selected. It is not our province to say what shall be the plan of treatment adopted, but we may venture to recommend remedies, and in such combination as we think best adapted to the removal of the disease. Called to treat a case of well developed intermittent fever, we should not hesitate to make the following prescription:

HYDRASTINE,
Morphine,
Asclepin.

This we should continue, in small doses, often repeated, until near the time for the expected paroxysm to take place; as we approached that period, we would increase the proportion of Hydrastine and Asclepin, lessen the amount of Morphine, and add Xanthoxylin and Varatrum, (see our general remarks on tonics, pp. 82–3.) The dose of Hydrastine is TWO grains, which, of course, will vary in different constitutions, and as the symptoms are more or less urgent. In the treatment of sunstroke, it would, perhaps, be safe to give the Hydrastine in ten or twenty grain doses, but in the treatment of ordinary intermittent fever, such heroic practice would be by no means warranted. So many diseases require the use of tonics, and espe-

cially astringent tonics, that we shall not attempt to point out every case in which Hydrastine may be employed. It may be made into an ointment, and applied externally, to combat cutaneous disease, or used as a salve, combined with Geranin and Rhusin, in the treatment of indolent ulcers. In the form of a wash, it has been used in the treatment of opthalmia, but we have not much faith in its powers over that form of disease. In the treatment of apthous sore mouth, excoriated gums, ptyalism, irritated fauces and throat, no agent acts more satisfactorily. No matter what the form of disease may be, if it is characterised by periodicity, we shall find the Hydrastine an invaluable remedy. Quinia has been so much abused in domestic and regular practice, that it is quite time we were looking for a substitute for it, less objectionable in large doses, and one which would restrain ignorant persons from administering it, under all circumstances, as a panacea.

APOCYNIN.

THIS resinoid is obtained from the Apocynum androsœmifolium, (Apocynaceæ,) which is known by the common names of Dog's-bane, Bitter-root, Milk-weed, &c. The Apocynum has long been in use, as a safe and speedy emetic, yet the medical properties of the root, we fear, have not been well understood. A difficulty presents itself in reference to the naming of the Apocynin; for while the American Chemical Institute prepares this principle from A. Androsœmifolium, an active principle of the same name has been prepared from the A. Cannabinum. It is quite true that the principles thus obtained from different

plants, are similar in their properties, but such circumstances make more or less confusion. Of course, when we speak of Apocynin, we shall not be misunderstood, as we state clearly from what plant the agent is obtained; but, when others speak of this principle, it will be necessary to designate the place of manufacture, or add the specific initial, thus: the Apocynin–A, or the Apocynin–C, which is a bad arrangement, at best. The Apocynum androsæmifolium was in use among the Indians, long before the settlement of the country by the whites, and has been for many years used by country practitioners. But it is only recently that the Apocynin has been separated and recommended to the profession. The Apocynin is a rather heavy, dirty, cream-colored powder, having an odor a little like rancid olive oil. It is only sparingly soluble in cold water, alcohol, and ether, to all which it imparts a somewhat bitter taste. It is probable that an agent similar to the one under consideration, will be obtained from the Apocynum cannabinum, but we do not, at present, see why it should be better, as the properties of the plants are almost identical.

The Apocynin, as prepared at the American Chemical Institute, is less emetic and cathartic than the root, unless given in very large doses. Yet its combination of properties renders it one of the most valuable agents we possess, in the treatment of dropsies. It is a good aperient alterative, combining with these properties, those of tonics and diuretics. So far as used, it has given satisfaction, and we do not hesitate to recommend it as worthy of the attention of the physician. In the treatment of secondary syphilis, it will be found a valuable agent, either alone, or combined as in the following formula:

APOCYNIN,
Stillingin,
Asclepin,
Helonin.

Of course the proportions of each of these agents would have to be graduated to suit the particular case in hand, and if the constitution was greatly undermined, Hydrastin might be added. It is probable that the Apocynin is one of the best diaphoretics,

in combination with Asclepin and Helonin, we possess, and, owing to its nauseating properties, may be used in the treatment of various inflammatory diseases, and, in small doses, in combination with Hydrastine and Xanthoxylin, is an invaluable agent in the treatment of various forms of dyspepsia. It has also been used, with flattering success, in the treatment of dropsies, for the cure of which the crude article has long enjoyed considerable reputation. When used in the treatment of dropsy, we would recommend the following combination of agents:

Podophyllin,
Asclepin,
Jalapin,
APOCYNIN,
Senecin.

In the convalescing stages of typhoid fever, combined with Hydrastin, the Apocynin is a reliable agent. It has been employed in the treatment of chronic hepatic disease, in jaundice, chronic constipation, and numerous other affections. Of course, any physician will at once see all its applications; and we are convinced, from what we know of the agent, that it must attain a high degree of popularity, at some future time. As prepared at the American Chemical Institute, it is very pure, and acts with great beauty and consistency. We shall have occasion to refer to its use, along with other agents, many times, in the course of this treatise, and may again point out some of its advantages. The medium dose of the Apocynin, for an adult, is two grains, repeated two or three times a day. Complete nausea may be kept up a considerable time by administering it in half grain doses every hour.

GELSEMIN.

THIS resinoid is prepared from the Gelseminum sempervirens, (Apocynaceæ,) which is known also by the common names of Yellow Jessamine, Wild Jessamine, Yellow Woodbine, &c. It is a twining plant, found throughout the Southern United States, and somewhat prized as an ornamental plant, on account of the beautiful bright yellow color of its flowers. As a medicinal plant, the Gelseminum is but little known by the profession. Of the true worth of the plant as a medicinal agent, we are not prepared to speak, from the fact that we have had but little experience with it. It, however, has rapidly gained an astonishing reputation in some sections of the country, and many facts are brought forward in support of its claims upon the notice of the profession. If the statements are true which we have seen, the Gelseminum is not only worthy of our attention, but should be extensively employed by the profession. In urging the claims of new remedies, physicians are too apt to see only the good effects of an agent, and overlook any disadvantages which it may possess. We do not say this has been the case with the Gelseminum, for while we admit that its pretensions are very great, we also admit that we are disposed to believe much about the plant, from what we know of its active principles. In all ages, physicians have earnestly sought for an agent which would certainly control and neutralize febrile conditions of the system. With Morphine, and numerous other narcotics, we are enabled to control pain, and to almost instantly relieve spasmodic affections; but, heretofore, we have had no agent that would, at once, in the same manner, dispel a burning fever, without, at the same time, leaving the system greatly

reduced, from the action of the medicine. We do not state as a certainty, that Gelseminum will do this; but we shall presently show, upon the authority of experience, that its active principle has vast power in controlling febrile affections. In what we shall say of the Gelsemin, we are supported by the experience of physicians who have used it, even more extensively than ourselves, and under such circumstances as not to be easily deceived in regard to the real value of the preparation.

Gelsemin, is emphatically a new remedy, as are most of those we shall describe; most of them having been discovered within the last five years. As prepared at the American Chemical Institute, it is a light drab colored powder, with a very pleasant odor, not unlike Gualtheria, and an agreeable aromatic taste, with a barely perceptible astringency, leaving in the mouth a sense of having eaten of spice cake. Gelsemin has been called a "febrifuge," but we recognise no such a class of agents, and cannot well conceive of the existence of one, for it is clear that the febrifuge properties of a drug, must depend on either its sedative or narcotic virtues, and as this agent acts much in the same way as Strychnine, without its peculiar stimulation, we shall class it with the sedative narcotics, not pretending, however, that its action is exactly the same as that of any narcotic or sedative now known. Let the reader consult our remarks, (pp. 73–84,) on narcotics and sedatives, and he will at once be enabled, we think, to understand the peculiar action of the agent under consideration. We have stated that hydrocyanic acid is capable of benumbing a limb, by paralysing the nerves of voluntary motion, and we wish the reader to bear the declaration in mind, for thus will he recognise the similarity of action which is displayed by the Gelsemin. The Gelsemin seems to be, (from our knowledge of its action, and what we hear of the Gelseminum,) less harsh, and more manageable than the crude material; as in our hands we have not seen the same effects which are said to follow the administration of Gelseminum sempervirens. This may arise from the definite quantity, and the combination in which we use it. At any rate, the Gelsemin is a

most active and positive agent, and as it may have an extensive application, we shall endeavor to avoid, as far as possible, being influenced by the extravagant praises which have been awarded to the Gelseminum. It may not be in our power to give a full and satisfactory history of its action on the diseased system, for so little has been written about it, that we are compelled to confine ourselves to our own experience, and that of those in whom we have the utmost confidence, and to give the results which have followed its use, in the treatment of a number of diseases.

Fever is the most important type of diseased action with which the physician has to contend; and if we can control it, we may well consider ourselves entitled to practice the healing art. The entire medical faculty has been for ages striving to accomplish this object; and hence the numerous theories which have been presented, and stoutly contended for, by different physicians, at different periods. The true causes of fever may not be well understood, even at the present day, but it is quite certain that we know more of its pathology now than we did a few years ago; and, from the much greater success which has attended its treatment recently than formerly, we are disposed to think that we now almost understand the predisposing causes and the manner in which it ravages the system. By this, we do not mean that the profession has ever *acknowledged* its ignorance of the nature of fever; but we have only to read the different works which have assumed to explain it, to be satisfied that, while some have spoken and written much that was true, others have disputed, and contended for much, which, whether true or false, has found both advocates and opponents, until, in general melee of disputation, one is unable to form a rational the conclusion; and, perhaps, the better and only correct mode of proceeding, is to entirely disregard authority, and even now study the phenomena, and treat of fever as though no man had written on it, since the science of medicine was first cultivated by the magi of buried ages. It is not our province to treat of the pathology of fever, or even to bring forward and describe all the symptoms incident to the different forms of fever, but to treat of the special application of an agent which is recom-

mended in the treatment of a disease, it becomes our duty to show *how* and *why* such and such results are obtained. But, to to do this, we must, under present circumstances, suppose the reader to be perfectly familiar with the normal or physiological action of the organism. To make ourselves understood, and to avoid all controversy or disputation, we shall take remittent fever, as the type on which to base our conclusions.

Gelsemin exerts a peculiar paralysing influence over the nervous system, and especially over the nerves of motion; and when given in large doses, we get, as the result of its administration, quiet, and regular nervous action, lowered circulation, augmented perspiration, increased action of the secretory organs, obscurity of vision, obtuseness of nervous sensibility, and other evidences of a powerful control over the entire nervous system. Malarial, or remittent fever, arises from a peculiar influence made on the nervous system, augmenting periodically all the vital manifestations—increasing the force and frequency of the pulse, diminishing the secretions, raising the heat of the body, diminishing perspiration, suffusing the eyes, and flushing the face; and these symptoms, when correctly interpreted, clearly indicate that the augmented vital or nervous action must be for a while checked. Physicians everywhere have recognized this indication, and hence the lancet, opium, nauseants, and powerful diaphoretics, have been freely used, to weaken the force of the circulation, reduce (with the opium,) the nervous sensibility, to promote the secretions, and set up sweating. When the fever, under this treatment, has subsided, it is found that the patient is left in a weakened condition, and then follow the use of tonics, to brace up the system, and before the patient can leave his bed, a month has passed.

But with the Gelsemin, we are now enabled to arrest this disease, in from two to twenty hours, and restore the patient to his friends, to health and business, in two or three days. It is plain that Gelsemin ought to be administered while the fever is increasing, not when it is departing: or, in plainer terms, we must not use this agent when the vital powers are already reduced. Hence, in the treatment of typhus and typhoid fevers,

unless we administer the Gelsemin in the very first stages of the disease it is inapplicable. When called to take charge of a case of remittent fever, if we found the tongue furred, the skin dry and husky, the bowels constipated, or a diarrhœa present, arising from acrid secretions, the pulse full, pain in the head, urine scanty, fauces dry, body hot, feet cold, breath fœtid, we should prescribe.

GELSEMIN,
Podophyllin,
Leptandrin,
Hydrastine,
Helonin,
Phytolacin.

The Gelsemin would, of course, constitute the principle agent, and with it thus employed, the physician can easily control a fever. When he sees the patient extremely quiet, the eyes motionless, and all signs of animation much weakened, let him not become frightened, and commence to pour in large quantities of brandy and ammoniated liquors, for all those apparently adverse symptoms will subside in a few hours; the fever will have disappeared, the skin moistened, the urine increased, the liver been made active, the mental vigor restored, and the patient feel comfortable. To render these conditions permanent, we have only to keep the patient on the following formula a few days:

Cypripedin,
Euonymin,
Hydrastine.

With proper attention to diet, air, bathing or sponging the body, and temperature, this will restore the patient to health. The dose of the Gelsemin is, for an adult man of medium constitution, ONE grain · but, if the patient has a quick, active, and highly impressible temperament, it will be best to give HALF a grain at first, and, if necessary, repeat it. When we wish to treat successfully a case of intermittent fever, it will be well to give Hydrastine in full doses, with a little Gelsemin, or to be more definite, we would say, use either the formula given

under the caption Hydrastine, and add to it Gelsemin, half a grain, or, if the patient be a stout man, one grain. In the treatment of nervous head-ache, this agent may be employed to much advantage, in pneumonia, in neuralgia, partial delirium, inflammation of the intestines, muscular spasm, rigidity of the os uteri, &c. Of course, any physician will at once see the extended application of any agent which will control febrile action. We speak confidently of this agent, and should not hesitate to use it as we have recommended; but we do not pretend to judge for others, and simply ask the profession to give it a fair trial, for it is certainly worthy of the attention of practitioners. While most agents of this class nauseate the patient, the Gelsemin causes neither nausea, vomiting, nor purging. Indeed, the patient feels no sensation of the medicine when taken into the stomach, except a loss of strength. A concentrated tincture of Gelseminum sempervirens has also been prepared, which, though a very convenient form for administration, possesses no advantage over the Gelsemin. The dose of the Concentrated tincture is THIRTY drops in water.

CAULOPHYLLIN.

THE CAULOPHYLLIN is obtained from the root of the Caulophyllum thalictroides (Berberdaceæ.) This is the Leontice of Linnæus,; but many American writers, following Michaux, have called the American variety Caulophyllum. This is the designation, also, which has been adopted by the American Chemical Institute; and hence we call the active resinous principle *Caulophyllin.* This plant is known by the various names of Blue cohosh, Squaw root, Papoose root, &c.

It has been in use among the Indians for many ages, as they say, and they have among them many traditions concerning the wonderful cures which have been effected by it. It is especially used by the females as a parturafacient, and, no doubt, possesses valuable virtues for such a purpose. In the regular profession it has not been used to any great extent, but with the frontier empirics, it has long been a favored agent, and it is from them that we have learned most of its action, when taken in the stomach. Within the last ten years, much has been written about it, and many physicians have thus been induced to use it, and, we are happy to say, with satisfactory results. The active principle has been separated only a short time; but it has been extensively employed by physicians every way qualified to judge of it, and, from all we hear, so far as our means of communication has enabled us to get an expression of opinion, there has been a general verdict in its favor.

Caulophyllin is a light resinous powder, somewhat pitchy when heated, of a dark drab, or drab color, with an odor similar to good powdered liquorice root, and a taste somewhat pungent. It is only partially soluble in cold water, and not completely soluble in ordinary alcohol. In ammoniated water, or alcohol, it is perfectly soluble. Nitric and muriatic acids both add to its solubility in water. It is very likely that an alkaloid principle will yet be prepared from the Caulophyllum; indeed, a description of a white precipitate was published some time since, in a New York journal, but of it we know nothing sufficiently definite to warrant its recognition in this work, it being our object to treat of the positive materia medica.

In proper combination, the Caulophyllin is a reliable parturafacient; but we cannot place it in a dozen classes of medicines as others have done. It really is a stimulating tonic, and as such, in every way perfectly reliable. It seems also to possess slight narcotic properties, although not in such an eminent degree as we have been told by writers occupying high places in the medical world. Every one will see how an agent becomes parturafacient, when it possesses the properties of stimulation, tonicity, and slight sedation as the reaction of stimulation. The

continued administration of this agent, will undoubtedly improve the general health, and thus give a healthy tone to the uterine function; and it will also, when pushed vigorously, exert a special action over the uterus, though we do not consider it (as an abortive,) superior to either ergot, or oil of savin. We make a distinction between parturafacients and abortives, as the reader will see by consulting p. 68 of this work. We consider it dangerous to push the Caulophyllin beyond the limits of parturafacients, (we mean by parturafacients, such agents as prepare the patient for successful parturition, which remove obstructions, and tone up the system,) and in this, we presume, most intelligent physicians will agree with us. As a parturafacient, we should not hesitate to prescribe the Caulophyllin alone, but we deem the following formula superior to the single article:

CAULOPHYLLIN.
Asclepin,
Helonin,
Macrotin,
Scutellarin.

During the administration of the above, which we should give three times a day, before eating, we should recommend the free use of mucilaginous drinks and proper care of the excretory functions. During pregnancy, females are apt to be troubled with spasmodic twitchings of the muscles, which sometimes prove troublesome; these will not appear when the above formula has been administered. When labor commences, with a patient who has been thus treated, the expulsive energy will be seldom inefficient, and the indications for abortives seldom occur. Many females, who have frequent miscarriages, would avoid them, and carry their children to the full period, by the use of Caulophyllin, with the above-named agents, and even single ladies, who have difficult or suppressed menstruation, would be greatly benefited, if not entirely relieved, by adopting the use of the above combination.

But Caulophyllin may be used in the treatment of numerous complaints, and especially to correct the harshness of the action

of all cathartics, which cause tormina during their operation. In rheumatism, depending on a syphilitic teint, the Caulophyllin may be used to much advantage when thus combined:

Xanthoxylin,
Stillingin,
CAULOPHYLLIN,
Hydrastin.

Before commencing the use of the above, we should clear out the system by the free administration of

Podophyllin,
CAULOPHYLLIN,
Scutellarin,

and administer freely of some ferruginous preparation, before and after each meal. In the treatment of ordinary hysteria, we should give:

Scutellarin,
CAULOPHYLLIN,

rubbed up with a small portion of Castor and Oil Erigeron. The Caulophyllin has also been used, with some success, in the treatment of epilepsy, spasm of the intestines, flatulence, and the whole catalogue of diseases requiring the exhibition of stimulating tonics. Being a tonic, it, of course, possesses alterative, or eutropic properties, and hence, is often used in the treatment of diseases demanding the exhibition of alteratives. The ordinary dose of the pure Caulophyllin is, for an adult man, ONE grain, three or four times a day. We do not regard this as the best stimulating tonic, alterative, or narcotic known, but it is a *good* and reliable agent, from which, if it be judiciously used, we may expect very satisfactory results. In this opinion we are well supported by all who have used the pure article.

CAPSICIN.

CAPSICIN, as prepared at the American Chemical Institute, is obtained from the Capsicum baccatum (Solanaceæ;) or, as known in common parlance, Bird-pepper, Cayenne pepper, &c. There are very many varieties of the Capsicum, and the history of them is generally well known. The Capsicum annum has heretofore been the only variety of Capsicum admitted as officinal. It is, however, now well known that the best Cayenne pepper is obtained from the West Indies, and from the northern part of South America; and that it is from the Capsicum baccatum that we obtain the best and most powerful Capsicin. The Capsicin, prepared from the Capsicum annum, is generally not only impure, but is less reliable; a circumstance which the chemists of the American Chemical Institute have over and again shown, by positive experiment, to warrant the substitution of the baccatum for the annum.

Capsicum has been used as a medicine for many ages, and is so well known that a description of it would be superfluous. The Capsicum is much used in all parts of the country as a condiment; but it is used much more extensively in tropical than in temperate countries. It is truly astonishing how much Cayenne pepper is used by the inhabitants of warm countries, when its pungency is so intolerable to one reared in the colder latitudes. The Capsicum has, as a medicine, been much abused, and, on that account, physicians have generally spoken of it in terms of derision, or as an agent by no means worthy of extensive application. "Steam and pepper," has passed into a re-

proachful sarcasm, often used to deride a class of men whose leader set out to cure all maladies, upon the principle that "heat is life, and cold is death." We shall not go into a general examination of the correctness of such a theory, but beg to dissent to its correctness, and declare that the theory thus set up is unintelligible, and can be adopted by such only as regard Cayenne pepper as a panacea for the ills of human nature. We hold the virtues of the plant in high estimation, and shall treat fully of its active principle. The active principle depends, according to some authorities, upon an alkaloid; whereas others contend that the active principle is a resinous substance—such is our own belief, and those who know anything of the substance, will scarcely question its correctness.

Capsicin is an oleo-resinous substance, of a dark brown color, slightly marked by a deep gold tint. It has the consistence of fresh tar. Its odor is peculiar, and pleasantly aromatic. Its taste is extremely pungent, and its impression very permanent. It is an aromatic stimulant, of the most powerful and purest kind. As a medicine, when taken internally, it increases the susceptibility of the nerves to the influence of other agents, heightening their action, and may be employed in many combinations. As a condiment, the people of tropical countries use the Capsicum to increase the powers of digestion, and the hint thus obtained, has led to its extensive employment in medicine. It is stimulant, diaphoretic, and excitant. As a stimulant, its action is not so much diffused over the body as many other agents of the class, and hence there is less augmentation of the pulse when it is administered, than is observed when some other stimulants are given. It seems to stimulate the capillaries and excretory functions, and, by its impression on the stomach, to assist chylosis. It may be safely used wherever a pure stimulant is needed, and, though somewhat acrid, it acts with much beauty in the treatment of many forms of disease. In domestic practice, a decoction of Capsicum is generally used, but in regular practice, the Capsicin will be found most available. Owing to its acridity, it should be well diluted, or the stimulation will be confined to severe irritation. To get at the

most correct knowledge of its powers, we may be allowed to indicate a few diseases in which it has been used with great benefit. In the treatment of ordinary colds or catarrhs, we shall often arrest the further progress of the disease, by making a decoction of the following formula:

CAPSICIN,
Myricin,
Alcohol,

and administering it freely to the patient, having previously opened the bowels by almost any cathartic. It will be necessary to keep the patient in bed until diaphoresis has ceased, and then keep him well clothed, and in the house for a day, as, soon after heavy sweats, the patient will be very apt to take cold from slight exposure. To prevent this, we usually order the following:

Xanthoxylin,
Hydrastine,
Morphine,
Phytolacin.

In a vast majority of cases, this will effect a permanent cure, which would, was it always sought at the outset of a severe cold in northern latitudes, often prevent many a case of consumption and premature death. From its power over the nerves of the stomach, it will be seen that Capsicin is indicated in the treatment of dyspepsia. For this purpose we make up the following combination:

Hydrastin,
CAPSICIN,
Xanthoxylin,
Chelonin,
Stillingin.

This persevered in, will do much for the health of the patient, provided the stomach is not made the receptacle of all manner of indigestible food. We do not think the above the best formula that could be given, but it is fully reliable, if the physician shall remove the exciting causes of disease. The Capsicin may be advantageously combined with Hydrastine, in

the treatment of intermittent fever; and we have known many in southern malarious districts to attribute their freedom from the fever to a plentiful use of Capsicum. The Capsicin has also some power in arresting uterine hemorrhage, but for this purpose we give:

Capsicin,
Ol. Erigeron,
Ol. Cinnamon,

well triturated with sugar. Perhaps, also, it is best to rub a little Capsicin on the arms and legs, so as to get the good effects of counter irritation. Capsicin, properly diluted with water, forms an excellent gargle, in the treatment of putrid sore throat, notwithstanding it would seem to be well calculated to get up and increase the existing irritation. For this purpose, the Capsicum has long enjoyed much reputation in all parts of the world.

To get up reaction in cholera, the Capsicin has been used with great success, and we think, in proper combination, it will meet the expectation of all who use it. The indications plainly demand:

Capsicin,
Hydrastine,
Strychnine,
Myricin,
Geranin,

according to the stage of the disease when the physician is called. The Capsicin should also be used externally, instead of mustard. As a local stimulant, we may use the Capsicin, as a rubefacient, over neuralgic organs, when the disease has fastened on a locality. In paralysis, it is an excellent application, especially when combined with Strychnine. As an embrocation, it may be rubbed on joints affected with rheumatism, or on the neck, in the treatment of deafness. A flannel cloth saturated with a mixture of:

Capsicin,
Olive Oil,
Oil of Turpentine,

and worn around the neck, will often relieve incipient bronchitis. When applied externally, the Capsicin does not produce vesication, and in this has the advantage over many similar agents. For cold feet, a mixture of Alcohol and Capsicin, applied externally, will be found very efficient. The dose for an adult man, internally, is ONE drop, which should always be greatly diluted. The Capsicin has been procured in the form of a dry powder; but we prefer the form we have described, as it is sufficiently concentrated and powerful for all practical purposes. This preparation may be adulterated, and the profession should be careful to procure it from some reliable house.

CHELONIN.

THE CHELONIN is obtained from the Chelone glabra (Scrophulariaceæ,) a plant which is also known by the common names of Balmony, Snakehead, Shell-flower, &c. It belongs to a small genus of American plants. Until recently, but little was known of the medical properties of the plant, yet it has been used from time immemorial by the Indians, from whom the whites obtained some knowledge of its virtues, and were thus led to experiment with it.

Chelonin, the concentrated active principle of Chelone glabra, is a dark, drab powder, which cakes in the bottle somewhat like tartartic acid. It has an aromatic, diffusible, pungent, slightly bitter taste, resembling somewhat both bayberry and Cayenne pepper. When put in water, it colors it of a buffish color.

This resinous preparation is a rather curious compound; for, when put in water, a mucilaginous substance is set free, along with the bitter principle and the coloring matter, while the pure resin is left undissolved. In alcohol it is much less soluble, but imparts to it the same buff color. In acetic acid it is still less soluble, being connected by it into a pitchy, ropy substance. It is still less soluble in muriate of ammonia, to which it imparts a deep orange color.

Chelonin is an active, stimulating tonic, slightly cathartic, and a good remedy for destroying worms. In the treatment of all diseases requiring the use of Capsicin or Myricin, the Chelonin may be appropriately combined with those agents, and used to promote the powers of chylosis; to determine the blood to the surface; to excite perspiration, stimulate the glandular organs, brace up the system in the sinking stages of typhus or typhoid fevers, and to heighten the action of other medicines. In torpid conditions of the liver, in dyspepsia, constipation, &c., we usually combine it for administration thus:

CHELONIN,
Leptandrin,
Xanthoxylin,

with the happiest results, and the most permanent advantage. Combined with Podophyllin it increases the action of the latter, and also modifies its tendency to gripe. The Chelonin has enjoyed some popularity as a vermifuge, though we do not think it very valuable as such. If we were to prescribe it for the purpose of removing worms, we should combine it thus:

CHELONIN,
Podophyllin,
Hydrastine,
Asclepin,
Rhusin,
Jalapin.

This prescription, persevered in for a while, would certainly be beneficial, and break up the cachexy on which the formation of entozoa in the body depend. To understand how this results, it will be well to consider our remarks on anthelmintics,

(pp. 66–67.) The dose of the Chelonin, for an adult man, is THREE grains; but, in many cases where there is great languor of the functions, as in old persons, it may be given in five grain doses. In the treatment of habitual constipation, the Chelonin may be advantageously prescribed with the following agents:

Leptandrin,
CHELONIN,
Hydrastin,
Asclepin.

If the constipation depends on a spasmodic condition, or upon an irritated condition of the intestines, it will be well to add Stillingin, Caulophyllin, and Lupulin to the abeve. Within the circle of almost any physician's practice, there will be found many patients requiring such a combination of agents.

ASCLEPIN.

ASCLEPIN is obtained from the Asclepias tuberosa (Asclepiadaceæ.) It is a North American plant, and known in different localities as Butterfly weed, Pleurisy root, Wind root, White root, &c. The Asclepias tuberosa is admitted by all respectable writers on the materia medica to be a safe, certain, and consistent medicine, on which we may rely in treating various forms of disease. Many eminent men have called the attention of the profession to it, in the treatment of numerous forms of disease, but it is only recently that it has met with the favor which it eminently deserves. In the southern and middle

States, it has long been used as a popular domestic remedy in the treatment of pleurisy, and hence one of its common names. Asclepin, the active principle upon which its medicinal virtues depend, has been separated by the chemists of the American Chemical Institute of New York, in the form of a beautiful cream-colored powder, which, in an eminent degree, possesses the properties of the root. Its taste is not very dissimilar to Ipecacuanha. It has an unpleasant, nauseous odor, peculiar to the root. The Asclepin is a valuable agent, acting prominently on the cutaneous system, stimulating the capillary circulation, promoting diaphoresis, expectoration, and all the excretory functions, without sensibly increasing the heart's action. It is, correctly speaking, a pure diaphoretic—perhaps as reliable a one as we possess—and is infinitely superior to Dovers powder, or, indeed, any similar preparation now in use as a diaphoretic. It acts most happily in combination, as we shall presently show. It is also slightly tonic, diuretic, and laxative. Its chief advantage over other diaphoretics is, that while most diaphoretics are stimulant or excitant, the Asclepin is rather sedative, and hence may be freely used in treating the low forms of typhus and typhoid fevers; and, indeed, wherever the skin is dry and inactive, whether inflammation is present or not. In treating the secondary stages of syphilis, we often find the skin very dry and harsh; under such circumstances, we have found the following formula to act like a charm, viz:

ASCLEPIN,
Stillingin,
Phytolacin,

The above combination may be used in the treatment of all cutaneous affections, and when the patient is greatly debilitated we may add the Hydrastin, or any other good and positive tonic. Perhaps there has never been an agent of this class introduced to the notice of the profession capable of doing so much good in the treatment of various diseases as the Asclepin, when judiciously employed. It has ever been a matter of importance with the profession to have at command an agent which should be certainly capable of producing free diaphoresis. In

the treatment of abdominal dropsies, and, indeed, of dropsies of every kind, it is desirable to induce copious sweating; and the discovery of the agent under consideration, must greatly facilitate their treatment. Combined with Gelsemin, almost any fever may be arrested in a very short time. In studying the phenomena of symptoms, and the peculiarities of disease, we shall find the skin most frequently in a condition to demand the use of diaphoretics, and hence this agent must have an extended application. We are in the habit of prescribing the Asclepin with other agents, in the treatment of dysentery, rheumatism, the various kinds of fever, dyspepsia, peritonitis, pneumonia, scarlet fever, catarrh, asthma, syphilis, &c., &c.

In the treatment of dysentery, it may be appropriately added to the second and third formulas on page 99, or we might combine it thus:

ASCLEPIN,
Geranin,
Phytolacin,
Hydrastine.

This agent should, of course, be avoided in those debilitating sweats, which sometimes accompany hectic fever. In the treatment of headache, dependent on constipation, it may be thus combined with much advantage:

Podophyllin,
Xanthoxylin,
ASCLEPIN,
Caulophyllin.

To promote the eruption in exanthematous disease, we should give the Asclepin thus, in full doses:

ASCLEPIN,
Sanguinarin,
Capsicin.

It is very evident, however, that the Capsicin should be only given to promote the action of the Asclepin and Sanguinarin. We might give any number of cases and formulas, in which we have known it to act with entire satisfaction; but we trust all who ought to use the concentrated agents, will at once

perceive the limitless application of such a reliable diaphoretic. The Asclepin has been recommended to fill many indications which do not appear to us to require its exhibition; but, as many will see, or imagine they see, many evidences of cure manifested by new remedies, we shall beg to state only what *we* know to be true. Indeed, we may be too unwilling to recommend agents, to suit those who have so zealously exerted themselves to make panaceas of the new remedies; but we beg such to bear in mind our oft-repeated declaration, not to recommend agents, merely because they are new, and were discovered by such and such persons. We claim for this work only the character of a truthful exponent, and ask our readers who may use the agents we recommend and treat of, to use them cautiously until they become familiar with them. There has been so little harmony, or proper interchange of ideas between organic chemists, that we are compelled to rely upon the preparations of a single establishment, and our own experience, and that of other veritable practitioners, who have used these preparations, both in private and hospital practice. We shall give hereafter some clinic cases to illustrate the worth of the concentrated vegetable preparations.

We shall not, perhaps, treat of an agent about which more error has prevailed, as to chemical and medical properties, than the one under consideration; but we hope we have been uninfluenced by the arguments of others in writing what we have of the Asclepin. The Asclepin acts slowly, but surely, and to increase its action, we have only to add to it some stimulant. It may be given in doses of TWO grains, which, in case the patient possess a strong constitution, may sometimes be increased to four or even six grains.

CYPRIPEDIN.

THIS agent is obtained from the rhizoma of the Cypripedium pubescens (Orchidaceæ,) or Yellow lady's-slipper. The Cypripedium is also known as Nerve-root, Yellow moccasin flower, Noah's ark, and American valerian. The Cypripedium pubescens was in common use by the Indians when the country was first discovered, and even at present they regard it as a most valuable remedy. All classes of practitioners have long since admitted this, though, until within a few years, it has not been extensively employed by regular physicians. There are several varieties of the Cypripedium, but the Cypripedin is obtained only from the pubescens. It is highly probable, however, that there is but little difference between them.

Cypripedin is a beautiful, cinnamon-colored, light powder, with an odor not very unlike that noticed when near a herd of swine. Its taste is somewhat pungent, a little bitter, and rather unpleasant. Less bitter, however, than Morphine, for which it is often substituted. It exercises a special control over the nerves of sensation, and this property is so apparent that it is often called a nervine. It is a slowly stimulating narcotic, and may be given wherever such an agent is indicated. We have already (pp. 29–30,) refered to the constitutional idiosyncracies which caused many patients to entirely reject all preparations of Opium, or other particular agents, and again, under the head of Narcotics (pp. 73–76,) refered to the same thing. Now, in the treatment of all diseases requiring the use of Neuropathics, or agents which are capable of affecting the nerves, we may safely use the Cypripedin, if Morphine, or other particular narcotic, should disagree with the patient. It is much used in the

treatment of hysterics, chorea, nervous headache, neuralgia, hypochondriasis, and other diseases of a nervous character.

Any one of the whole catalogue of nervous diseases may follow the least injury of the great nervous centres, which shall in any way retard the free and equal circulation of the nervaura, or which shall cause its accumulation at a certain point. If we then administer a stimulating narcotic, and brace up the system with proper tonics, we shall have but little difficulty in reducing the system to a state of health. But if, by certain continued exposure, we get up a greatly irritated condition of the nerves, (in the face, for instance,) and induce a facial neuralgia, we shall find the Cypripedin a most excellent article in its treatment, and especially where Opium, Belladonna, &c., disagree or have failed to cure. We should, for this purpose, combine the Cypripedin thus:

CYPRIPEDIN,
Scutellarin,
Phytolacin.

The above formula, if properly regulated, as to the quantity of each article employed, will also be found most excellent in the treatment of nervous headache. In the treatment of chorea, for which this agent has been much prescribed, and, indeed, with some success, we prefer to combine it thus:

Hydrastin,
CYPRIPEDIN,
Macrotin,
Xanthoxylin,
Scutellarin.

Chorea is almost always connected with torpor of the system, and before giving the above combination, we should give a free cathartic powder of Podophyllin, Leptandrin, and Caulophyllin. Very frequently we are called to treat a chronic form of chorea, called tic convulsif, or convulsive twitching of the face, as it usually occurs in the muscles of the face. For removal of this form of the disease, we may give the following:

CYPRIPEDIN,
Hydrastin,
Euonymin.

It is plain that we must tone up the system, as well as to stimulate the nerves upon which the twitchings depend. In treating a case of epilepsy, we shall see the Cypripedin act with great beauty, when properly combined. Epilepsy is said to be a disease of the brain, but we are disposed to locate the seat of the cause in some of the great nervous centres of the body. The reflected cause or effect may be, and no doubt is, seated in the brain; but if we administer agents which are capable of either directly or indirectly stimulating the brain, we shall most assuredly augment the disease. If, however, we administer such agents as are capable of equalizing the general circulation, giving strength to the tissues, vigor to the nervous system, and promoting free cutaneous action, and put the patient on a proper regimen, easily digested, but of a nourishing kind, we shall ultimately relieve it. The combination we should give to effect this would be:

CYPRIPEDIN,
Hydrastin,
Asclepin.

While administering the above, we should also apply counter-irritants, and even use revulsive cathartics, but by all means avoid emetics. The plan of treating epilepsy heretofore persued, has certainly not been successful, and the fact has always been a source of regret to the profession. The Cypripedin has been recommended in the treatment of hypochondriasis, but we may be allowed to say that for the cure of such a disease, it is valueless, except as it improves the general tone of the system. We should as soon rely upon any good tonic as the Cypripedin in the treatment of any hypochondriacal affection.

But in the treatment of nervous irritability, which we sometimes see in delicate females, or in hydrocephalic children, we have much faith in the Cypripedin when thus combined:

CYPRIPEDIN,
Morphine,
Xanthoxylin.

Frequently, in administering narcotics, such as Opium and its preparations, we induce constipation, and thus lay the foun-

dation for functional derangement, unless we correct the condition by Laxatives—but in administering the Cypripedin, we shall never find constipation present, for it is rather laxative in its tendency, in consequence of toning up the intestines and stimulating the hepatic secretions. We may safely administer this agent in the low stages of typhus fevers, where there is a tendency to sinking, by combining it with Rhusin and Chelonin. In delirium tremens, the Cypripedin may be successfully employed to quiet the nervous system; and it will assuredly affect a cure, if we thus prescribe it:

CYPRIPEDIN,
Xanthoxylin,
Asclepin,
Hydrastin,
Rhusin.

As the system is quieted under the above, we may continue to drop each of the other agents, until the patient is taking only Hydrastin and Cypripedin, and if this does not strengthen him sufficiently fast, we may put him on the following:

CYPRIPEDIN,
Cornin,
Myricin,
Xanthoxylin.

The above course is far preferable to large doses of Opiates and positive stimulants, which are not permanent enough to affect much that is really beneficial to the patient. We trust we have said quite enough to enable the competent practitioner to use the Cypripedin consistently, and to obtain satisfactory results. The dose of the Cypripedin, as prepared at the American Chemical Institute, is, for an adult, TWO grains, which may be increased or diminished, as the indications require. It may not be out of place here to make some remarks on the doses in combinations:—When we administer an agent, in combination with others which modify its action or reduce its force, we must, of course, give it in fuller doses than when administered alone; and on the other hand, if we administer an agent which is slow in its action, along with one or more which, in consequence of

increasing the susceptibility of the nerves to medicinal influences, quicken its action, the dose must be smaller. This principle will be fully canvassed when we speak specially of the science of combination.

EUPATORIN.

THE Eupatorin, prepared at the American Chemical Institute, is obtained from the Eupatorium perpureum (Asteraceæ,) known also by the common names of Queen of the Meadow, Gravel-root, &c. This plant is often confounded with Eupatorium perfoliatum, the properties of which are supposed to be about the same as the Eupatorium perpureum. This is, however, a great mistake, for while the perfoliatum is emetic and tonic, the perpureum is diuretic, stimulant, and highly astringent. An active principle was some years ago obtained from the Eupatorium perfoliatum, to which the name Eupatorine was given, but it seems to have met with little or no favor. We are confident, however, that it will be again extracted and come into general use, though as yet we are not prepared to speak of its worth. From the Eupatorium perpureum several preparations have been obtained, but, so far as we can learn, none of them, save the one under consideration, are worthy of notice in this work, or of the attention of the profession.

Eupatorin is of a bright drab color, with an odor peculiar to itself, rather pleasant, and somewhat aromatic. Its taste is a little aromatic, but has little if any bitterness. The Eupatorin seems to act almost exclusively on the urinary apparatus. It is a safe and certain diuretic, and has been rather extensively prescribed as such. In the treatment of hæmaturia, the Eupa-

torin will be found a valuable agent. For this purpose, we combine it thus:

EUPATORIN,
Geranin,
Asclepin.

In using Cantharadine blisters, we are apt to induce stranguary; under such circumstances, the Eupatorin promptly relieves the constriction. For this purpose, it is best to combine it with the Helonin. In various forms of nervous headache, the urine is excreted with difficulty, and the quantity voided very small; the flow may be greatly facilitated by Eupatorin. In dropsies, it is also sometimes desirable to stimulate the renal functions, and thereby cause an increased flow of urine; for such a purpose, this agent acts well. To remove the cachexy favorable to the formation of stone or renal calculi, we may resort to the use of Eupatorin in the following combination:

EUPATORIN,
Cornin,
Caulophyllin,
Stillingin,
Senecin,

with the free use of mucilaginous drinks while the patient is taking the above combination. It will also be appropriate to properly regulate the diet; to sponge the surface with a tepid saline mixture, and avoid vicissitudes of temperature. In the actual passage of calculi, we shall often promote the effort of nature to get rid of the foreign substance by a mixture made of:

EUPATORIN,
Cypripedin,
Oil of Turpentine,
Oil of Erigeron.

If there is much pain present, we may add to the above mixture a small portion of Morphine. In the treatment of urethral inflammation, we have found the Eupatorin, combined with the Gelsemin, to act very beneficially. It has also been recommended in the treatment of gout, rheumatism, &c., but as

we have had no experience with the agent in such cases, we cannot speak positively of its worth in the treatment of such affections. The dose of the Eupatorin for an adult man, is TWO grains, which may sometimes be increased to three or four.

RHUSIN.

THE Rhusin is obtained from the leaves of the Rhus glabrum (Anacardiaceæ,) or Upland sumach. The Rhus glabrum belongs to an extensive genus, among which may be mentioned the toxicodendron, venenatum, pumilum, seriense, succedaneum coriaria, cotinus, copalinim, typhinum, metopium, &c. These are all valuable medicinal plants, and we doubt not but active principles will yet be separated from most of them. The Rhus venenatum and R. pumilum will often affect cures on persons who experience but little benefit from the use of the R. toxicodendron. The R. coriaria, R. cotinus, and R. glabrum are destitute of the acrid poisonous principle found in the R. toxicodendron. The Rhus glabrum has long been in use in domestic practice—its value having been, in all probability, first learned from the Indians, who mix the dried leaves with tobacco, and smoke the compound. The effect thus produced, is said to be very pleasant, if not carried too far.

Rhusin, the active resinous principle of the Rhus glabrum, is a dark cream, or light drab colored powder, capable of great divisibility in solution. It has an odor not very unlike sweet wine, and an astringent mucilaginous taste, with little or no perceptible bitterness, or pungency. When pure, it possesses, in an eminent degree, the properties of the crude article, in a concentrated form. It has been much used as an antiseptic,

though for this purpose we prefer other agents. It is a good astringent tonic, which, like Geranin combined with Hydrastine, is very soothing to inflamed mucous surfaces. We have but little faith in this remedy as a diuretic, although it has been strongly recommended as such. In the treatment of sore mouth which has resulted from ptyalism, the Rhusin has been found a valuable remedy, especially when thus combined:

RHUSIN,
Geranin,
Hydrastine.

The mouth should be also freely washed with a decoction of slippery elm bark while using the above compound, which may be dissolved and used as a wash. The same formula, with the addition of a small quantity of Morphine, will be found a most reliable compound in the treatment of old sores and cancerous ulcers. Without the Morphine, the above formula will be found valuable in the treatment of the secondary stages of dysentery and chronic diarrhœa. Rhusin and Capsicin may be jointly employed, with good effects, in the treatment of putrid sore throat, (see our remarks on Capsicin.) When employing Rhusin internally, it is plain that if there is a tendency to constipation, it must be combined with some laxative. In the chronic diarrhœa of consumptives, when hectic fever is present, and there is much debility, we may give the Rhusin thus:

Hydrastine,
RHUSIN,
Myricin.

This, with nourishing diet, will prolong life, if it does not cure.

The dose of the Rhusin, for an adult man, is TWO grains. The Sumach, though everywhere known and used by the common people, has never, until very recently, met with proper favor with the profession; but, whether we use the active concentrated principle, or a decoction of the crude article, we shall be pleased with its action.

MYRICIN.

THIS excellent preparation is the active principle of Myrica cerifera (Myricaceæ,) known, also, by the common names of Waxberry, Bayberry, Waxmyrtle, Virginia candleberry, &c. Myricin is a greyish brown color, with a peculiar odor, and a taste rather astringent and aromatic, leaving on the tongue a burning sensation. Administered alone, it is not, perhaps, superior to some other preparations of its class, which we have or shall hereafter mention; but, combined judiciously with other agents, it is an important preparation, quite positive and permanent in its effects on the system. It has been used singly in a variety of diseases, and in combination, in all cases where a stimulating aromatic and tonic is admissible. It has been successfully employed in the treatment of scrophula, thus combined, the principal reliance being placed on the two first articles:

MYRICIN,
Stillingin,
Phytolacin,
Xanthoxylin,
Leptandrin.

Of course, this formula would by no means suit every case of scrophula one would meet in practice; but there are many forms, or, rather stages of the disease, when the above medley of agents would act very satisfactorily. The Myricin has also been strongly recommended in the treatment of jaundice; but, as we have not been convinced of its value in this form of disease, we choose to rely on other more positive agents. In the treatment of certain forms of diarrhœa, it certainly acts very well, when properly combined with other agents. As diarrhœa may be caused by so many opposite conditions of the system,

it will be always necessary for the physician to inquire into the real causes and pathological phenomena which present themselves. There are certain typhoid forms of diarrhœa, which demand a curious combination of agents; for example, if we find our patient to possess an irritated viscera, we avoid stimulants; but if, on the other hand, the disease depends on a torpid and weakened state of the intestines, we shall obtain satisfactory results by a stimulative plan of treatment. If the powers of the system are well exhausted, of course tonics will be indicated; but tonics are medicines which act very slowly, and it is not always safe to wait for them; hence we give the following combination of agents, which, while they at once stimulate and immediately brace up the system, do not prevent the proper tonics from exerting their influence:

MYRICIN,
Geranin,
Hydrastin,
Cypripedin,
Oil Erigeron.

Of course, as we have before said, if the diarrhœa depends on the presence of irritating matter in the intestinal canal, it will be proper to first evacuate the tube, by a free cathartic composed of:

Podophyllin,
Leptandrin,
Caulophyllin.

Myricin has also been successfully employed in the treatment of dysentery, mental depression and languor, and a number of other diseases. Externally, it may be made to answer useful purposes when applied to old ulcers, by combining it with the Hydrastine. It is said to have been successfully employed in the treatment of cholera, but of its utility in that disease, we are not prepared to speak from experience. The dose of the Myricin, for an adult man, is THREE grains. It is frequently used as an alterative, but, pathogenetically, we deem it a valueless alterative. Combined with other agents, however, of an alterative kind, it greatly assists their action, and, in preparing an alterative formula, we seldom omit the Myricin.

HELONIN.

THIS resinoid is obtained from the Helonias dioica (Malanthaceæ,) which is known by the common names of Devil's bit, Drooping starwort, False Unicorn root, &c. The Helonias dioica has been long used as a medicine possessing rare powers over the urinary organs, stimulating the genitals, and destroying the atony which sometimes exist, when the vital resources have been spent in riotous living, &c. It is frequently used by declining females for such purposes, and, it is said, with wonderful effect, especially when the Helonin is used instead of the crude article. It has, however, been known to the profession only as a tonic diuretic, and vermifuge, and as an agent capable of producing protracted vomiting, when taken in too large doses.

The Helonin is a light snuff-colored powder, with an odor similar to Hydrastine, or a little more sour. Its taste is pleasantly bitter and aromatic. By standing long in a bottle, it cakes somewhat like tartaric acid, or martial flowers. As a diuretic, the Helonin is best combined with other agents. The following is a good combination, and will please those who use it:

HELONIN,
Eupatorin,
Senecin,
Asclepin.

When this is being administered, the patient should be freely supplied with warm teas, and be kept quiet. Owing to its tonic powers over the uterine apparatus, it is often prescribed in the diseases of that viscera, as in leucorrhœa, amenorrhœa,

&c. To prevent miscarriage, the Helonin is a good remedy. It must be remarked, however, that its continued use induces an abnormal desire for sexual indulgence, which should be avoided. We may give the Helonin as a diuretic, without producing this irritable and vitiated condition of the genitals, by combining it with Camphor. The Helonin has also been used in the treatment of dyspepsia, along with other agents, with the happiest results. As a vermifuge, it may be given at short intervals, and in small doses, in the following combination, which we regard as a good anthelmintic formula:

Leptandrin,
Chelonin,
HELONIN,
Podophyllin.
Hydrastin.

After giving the above three times a day, for two days, it should be followed by a brisk cathartic. Always, when treating a patient affected with entozoa, it should be our care to place the body in such a condition as would be unfavorable to the generation of worms. After having cleared them out of the intestines, we should adopt a tonic plan of treatment, and give freely of Chloride of Sodium, either as a condiment or as a medicine; for, from our experience, the common salt is the best preventive anthelmintic now known. The dose of Helonin, as a diuretic, is FOUR grains; as an anthelmintic, TWO grains, and as a uterine tonic, FIVE grains, along with one-fortieth of a grain of Strychnine.

PODOPHYLLIN.

THE PODOPHYLLIN is the resinoid active principle of the Podophyllum peltatum (Berberidaceæ,) which is known in different parts of the United States, as Wild lemon, Mandrake, May-apple, and Raccoon-berry. As we shall not treat of a more important principle than the Podophyllin, it seems proper to give as much of its history and peculiarities as our space will admit. The Podophyllum is divided into three species, though only two are well known, viz: P. Peltatum and the P. Mantamum. This latter plant seems to possess properties very similar to the P. Peltatum. It is, however, a rare plant, and hence will never be used very extensively in medicine—especially while it is known to possess no advantage over the Mandrake. The Podophyllum peltatum is found in most parts of the United States, but it is only under a tropical sun that it attains its perfect development. It is usually found in damp, shady woods, and on the north hill-sides in mountainous districts. It flowers in April, May, and June, according to the degree of latitude. In the middle States, it generally flowers in May, hence one of its common names. It ripens its fruit in July, August, and September; when matured, the fruit is of a bright lemon color, and about the shape and size of a large hen's-egg; hence the common name of wild lemon. The apple or fruit is almost identical in appearance with the fruit of the passion flower of the middle and southern United States. It contains a thick, mucilaginous pulp, in which the seeds are arranged, somewhat as in the pomegranate. The taste of the fruit is acid sweetish, rather pleasant, and much admired by country children, who

will often wander in the woods in search of it. When the ripe fruit is eaten in quantity, it induces a slight laxative effect upon the bowels. The leaves of the Podophyllum are said to be slightly narcotic, but of this we have not sufficient proof. The whole plant, in the green state, may be regarded as poisonous, and should not thus be administered. Its great harshness of action, in the green state, seems to depend upon a volatile oil, which is mostly dissipated in drying. The root is the part used in medicine, though it is probable that all parts of the plant are more or less medicinal. The Podophyllum was a farvorite remedy among the Indians, long before the settlement of the country by the whites. The Indians used the root in the treatment of all diseases requiring the use of cathartics. Their mode of using it, was to make a decoction of the root, to which they then added a decoction of the barks of dogwood and poplar At least, such is the plan, at present, of using it, among the Seminoles, who have great faith in its virtues, and seem to understand how to modify the tendency of the medicine to produce griping pains. Before the removal of the Seminoles from their homes in Florida, to the Indian territory, the writer had frequent opportunity of observing their mode of preparing and using numerous medicinal plants. The modern American materia medica has been greatly extended in consequence of information which has been derived from the different tribes of Indians. We believe no respectable writer, who has lately assumed to treat of the Podophyllum peltatum, has refused to recognise many of its excellent properties; and it is to be regreted that the same cannot be said of other plants, whose properties have been only recently developed.

Much disputation and argumentation has taken place, to determine to whom is really due the credit of having first presented the active principle to the profession; but, while we acknowledge that we are satisfied as to the person to whom the honor is due, we beg to say, that *we regard the honor as a very small matter.* Every conscientious physician will at once admit it to be his duty to exert himself in every way, to discover the best agents for combatting human maladies. If this fact be

admitted, why need any one be over anxious about the authorship of a discovery, when he carries within him the consciousness of having discharged his duty to his fellow men?—a consideration more valuable and worthy of cherishing, than the laudations of the whole catalogue of medical writers. Not only so, all a man's ranting, contention, self-glorification, and anxious care, is wasted; for the men who write on such subjects, know the truth, and, when occasion requires, will not hesitate to speak correctly. Many ages have passed since chemists discovered active principles on which the medicinal virtues of plants depend; and, though Podophyllin, the active resinoid principle of Podophyllum, was not separated until recently, does that argue any original discovery on the part of him who first succeeded in getting it out? Whoever gets out the best and purest article, deserves the patronage of those who use the article as a medicine, and no more.

Podophyllin, when pure, is a yellowish, dark cream colored powder; or, perhaps, to express its color as near as possible, we may say, it is in color, a shade darker than powdered Ipecacuanha. When first put in the mouth, one experiences little sensation, but, in a short time, a nauseous, disagreeable sensation is felt in the upper part of the mouth, which gradually extends to the fauces, throat, and over the entire mouth. Its odor is between that of oak bark and peach leaves, or, perhaps, more correctly, similar to wild cherry tree bark. It is not so finely powdered as some other preparations, and feels a little gritty when rubbed between the fingers.

It would be an easy matter to write a long essay on the Podophyllin, as many have written on its properties, but, while we shall treat at sufficient length of the article, we choose to rely on our own experience to arrive at conclusions respecting it; and yet, we shall hold in the utmost respect the opinions of those physicians whom we know to be qualified to speak correctly of it. We do not, by any means, regard our opinions as being superior to those of others, but, as we have undertaken to speak correctly of certain agents of the materia medica, and having ventured to recommend them to the notice of the pro-

fession, as reliable agents, on which the practitioner may depend, we choose to be our own judge of their worth, by seeing and feeling, for our own satisfaction, that about which we are to write in positive terms.

Podophyllin possesses, according to our judgment and experience, in an eminent degree, the properties of the root, with the advantage of being so concentrated, as to be taken with readiness by the most delicate patients. The reader will lose nothing by re-reading our remarks on Cathartics, (pp. 62–66 inclusive,) for it is necessary to have correct notions of catharsis, if we would comprehend the value and uses of special agents. Podophyllin is a certain cathartic, and, if given in too large doses, a positive emetic, and hence is often called an emeto-cathartic. Owing to its difficult solubility, it is slow in its operation, and, from the same cause, almost sure to cause much tormina and uneasiness while the patient is under its influence, especially when it is given alone. We believe the Podophyllin to be a dangerous remedy in the hands of one who will prescribe it recklessly. It should seldom or never be given alone, as its action is sometimes so harsh as to produce alarming results, when given in large doses, uncombined, and to delicate nervous temperaments. By consulting our remarks on the modifications which are produced by the temperaments, on pp. 28–9, the reader will at once see the justness of these remarks. We have known as much as six grains of Podophyllin, given to a stout, lymphatic Irishman, with only slight cathartic effect, and we have also known one grain, unqualified by any other agent, to produce the most alarming prostration, cramps, and cholerine discharges, when administered to a delicate, nervous female. Such cases are rare, however, and never occur when the Podophyllin is administered by a skillful practitioner, and properly combined with other agents. We have heard of persons giving ten and twelve grains of Podophyllin at a dose; but when patients bear such doses with impunity, we may rest assured that the article is not pure. A practitioner who would prescribe ten grains of the Podophyllin prepared at the Ameri-

can Chemical Institute, ought to be distrusted with the public health.

Podophyllin impresses its medicinal force both on the nerves and on the circulatory system. And though it is slow in dissolving, it finally does so, and that very minutely; hence the thoroughness of its action, when it once commences. Almost all powerful cathartics, which greatly stimulate the liver and upper intestines, cause more or less nausea in their operation. This nausea frequently amounts to emesis, when Podophyllin has been administered in full doses. Podophyllin, after it has operated, leaves the bowels in a soluble and healthy condition, which is an advantage it possesses over most powerful cathartics. It impresses the system more generally, perhaps, than any agent now known, especially when combined with Caulophyllin or Leptandrin. It rouses the liver to vigorous action, determines the blood to the surface, stimulates the kidneys, promotes expectoration, augments the glandular functions, and sweeps out from the intestinal canal all irritating substances, the effect of which is a general revulsion of the nervous forces which had been previously centered on one or more organs. It increases the appetite, promotes perspiration and excretion, stimulates the emunctories, reduces inflammation, equalizes the circulation, and leaves the patient on the road to health, provided he "sin no more." It has been remarked by several writers on the Podophyllin, that its action was greatly increased by being long triturated with sugar of milk. The remark is true, but it is not owing to any peculiar virtue of the sugar of milk over any other kind of refined sugar. We have already stated that medicines act in proportion to the extent of surface with which they come in contact, and not in proportion to the positive amount introduced into the body. This principle explains why Podophyllin should act more rapidly when minutely divided, by being long triturated with sugar. This remark will apply to most of the concentrated preparations, and we trust those who use them will profit by it.

When administered alone, Podophyllin acts in about eight hours; but when combined with any stimulating cathartic,

which is readily divisible, it will operate in a much shorter time. As a good *general* formula for the administration of Podophyllin, we like the following:

PODOPHYLLIN,
Caulophyllin,
Leptandrin,
Xanthoxylin,
Irisin,
Capsicin.

We have already treated of some of the above articles, and shall refer in separate articles to each of the others, and by consulting the articles which describe each, there can be no difficulty in apportioning each remedy. There is here an opportunity for a display of judgment, as the proportions will necessarily differ in each case, where the temperament, age, sex, &c., are different from others. If we desired to make up five powders of the above, to be taken in two days, it would only be necessary to say: 5X6=30. Then we must regard the mass as to be composed of 30 parts, Podophyllin being the leading agent, and the desire of the physician being to produce free catharsis, he now considers the dose, which we will suppose to be two grains—5X2=10 gr. Dose of the Caulophyllin, one grain, but as it is not a cathartic, and is given merely as a qualifier, we will say the dose is half a grain; then we have 5X½ =2½ grains. Leptandrin is a cathartic, and therefore a coadjutant. The dose of Leptandrin is three grains; but, as it is not a leading article in the formula, we will say the dose is one and a-half grains; then we have 5X1½=7½ grains. Xanthoxylin is not a cathartic, but it is a stimulant, augmenting the impressibility of the liver. The dose of Xanthoxylin is three grains; but, as we are to use it merely as an augmenter, we will say the dose is one and a-half grains; then we have 5X1½=7½. The Irisin is also a stimulant which will arouse the impressibility of the kidneys. The dose is one grain; but its union with the Xanthoxylin and Capsicin renders it much more active; hence we shall say one-fourth of a grain is a dose. We then have 5X¼=1¼ grains. The Capsicin is the most powerful stim-

ulant in the combination. It will aid the action of all the other remedies, and be itself aided by them. The dose of the Capsicin is one drop; but, as we are not giving it as a leading remedy, and are seeking only to aid other agents, we shall say the dose is one-half grain. We then get $5X\frac{1}{2}=2\frac{1}{2}$, and our formula would stand thus:

(DRUGGISTS NAME.)	R.	Podophyllin,	10 gr.	No.
		Caulophyllin,	$2\frac{1}{2}$ gr.	
		Leptandrin,	$7\frac{1}{2}$ gr.	
		Xanthoxylin,	$7\frac{1}{2}$ gr.	
		Irisin,	$1\frac{1}{4}$ gr.	
		Capsicin,	$2\frac{1}{2}$ drop.	

Divide the above into five equal powders, to be given morning, noon, and night, until consumed.

(PATIENT'S NAME.) (PHYSICIAN'S NAME.)

The above powders might be given in syrup, honey, preserves, or some such vehicle, or they might be made into fifteen two grain pills, and three given at a dose. We beg to say that the above is only illustrative of our idea of prescribing: prescriptions should be always written so as to be perfectly intelligible. The physician's name, as well as those of the patient and druggist, should be on every prescription, which should be filed away. The druggist in labeling, would thus not be so apt to be blamed, while the patient would hold both responsible. As to Latinizing prescriptions, it is out of the question. Every man is most familiar with his mother tongue, and least subject to mistakes when using it. If system and care is necessary in any vocation, it certainly is so in the practice of physic, where life depends upon a proper communication between the patient, the druggist and the physician, and a due observance of the duty of each. Though the above is somewhat collateral, we trust that every intelligent physician will admit its propriety.

When given in the treatment of chronic constipation, the Podophyllin should be given in very small doses, the reliance being placed mostly on Leptandrin and Hydrastine. In the treatment of engagements of the liver, in mesentine disease, in

torpidity of the cutaneous functions; in rheumatism, scrophula, secondary syphilis, dyspepsia, dysentery, and, in fact, every disease requiring either a depletive, or an alterative course of treatment, the Podophyllin may be safely used. In small doses, repeated at regular intervals, it is a reliable alterative, having few superiors in the whole materia medica. Many practitioners are in the habit, when first called to a case of intermittent fever, of giving a rather large dose of Podophyllin, combined with Sanguinarin and Caulophyllin. This not only induces much prostration, but the free ejection of the contents of the stomach and bowels, and by the powerful impression it has made, often cuts short the fever in its incipiency. When given in small doses, at short intervals, and combined with Irisin, the Podophyllin is apt to induce a kind of ptyalism, which readily disappears upon the suspension of the medicine. Any astringent wash will soon remove every trace of ptyalism, when its administration may be again resumed. This ptyalism is, in part, the effect of the Irisin, and to avoid it, when we give the Podophyllin as an alterative, it is perhaps best to give it in this form:

PODOPHYLLIN,
Stillingin,
Sanguinarin,
Euonymin,
Apocynin.

Or, in case the patient requires a tonic as well as alterative course of treatment, we may omit the Euonymin, and substitute Hydrastine and Chelonin.

We have said Podophyllin should never be administered alone, and we have stated why. We scarcely think, at present, of a single case requiring the use of Podophyllin, when either the Leptandrin or Apocynin would not also be admissible. Combining medicines properly is the most efficient part of the science of physic; but whoever is well grounded in the rudiments of pathology, therapeutics, and knows the value of the drugs he dispenses, will have no difficulty in forming rational combinations, which will prove highly beneficial, and be greatly

superior to large doses of single agents. It is true that all physicians may not combine together the same agents, but they will generally be governed by the same great principles. It is because the public does not understand this that it so frequently condemns the practice of one physician, and lauds that of another, when, in truth, both practitioners actually make the same prescription, therapeutically considered.

Podophyllin has been found one of the best agents in the treatment of those cases where there is a tendency to congestion or inflammation of the brain. In this case, it proves beneficial in consequence of equalizing the circulation, and forcing a proper supply of blood into the extremities. Podophyllin has also been found very beneficial in the treatment of puerperal fever; and perhaps the following combination will arrest almost every case when given in full doses:

PODOPHYLLIN,
Leptandrin,
Caulophyllin,
Gelsemin,
Stillingin.

Of course, the Gelsemin should be given in small quantity, for otherwise the prostration would be too great. In the treatment of dropsies, there can be no question of the utility and value of this agent, especially when thus combined:

PODOPHYLLIN,
Asclepin,
Eupatorin,
Capsicin,
Sanguinarin.

The Podophyllin, combined with Leptandrin, is a valuable remedy for removing irritable substances from the intestinal canal, in the forming stages of cholera infantum, dysentery, and summer complaints in general. It has also been found an excellent agent in the treatment of asthma and croup. For all uterine obstructions, the Podophyllin may be safely employed, in combination with Macrotin and Caulophyllin. In union with Scutellarin and Cypripedin, the Podophyllin is decidedly

beneficial in the treatment of neuralgia. As neuralgia is a very common disease, and one which has heretofore troubled physicians very much, it may not be out of place to give what we have found to be a good formula in its treatment:

PODOPHYLLIN,
Scutellarin,
Cypripedin,
Capsicin,
Xanthoxylin,
Phytolacin,
Gelsemin.

This will, if persevered in, benefit a vast majority of cases, if it does not entirely cure them.

PODOPHYLLIN has rapidly gained favor with the profession, no respectable and candid member of which, so far as we are aware, having seen cause to condemn it. It is quite true that such an agent may be abused in the hands of ignorant pretenders, and thus suffer in public estimation. But when an agent is so positive and certain in its action as this, there will be little difficulty in getting it properly introduced. We have before us the abstracts of many cases wherein the Podophyllin has been successfully employed, and would willingly lay them before the public, had we sufficient space. In various medical journals, the reader will find thousands of cases reported, and to them he is refered. The dose of the Podophyllin, as prepared at the American Chemical Institute, is, for an adult man, TWO grains, which will be increased or diminished, to suit the particular case in hand. Delicate females will seldom require over ONE grain. We see some persons easily affected with cathartic medicines, and to such, it will be improper to administer the Podophyllin in more than HALF grain doses. On the other hand, we often see persons on whom it is difficult to arouse the impressibility of the bowels—to such, we may safely give as much as THREE or FOUR grains. But it must be borne in mind, that this agent should always be given in combination, and that much depends on its kind, as to whether we increase or diminish the action of the Podophyllin. If we find it acting

too harshly, causing protracted distress in the abdominal region, and wasting the strength of the patient, inordinately, it will be best to give stimulants and astringents, to check it. Judiciously employed, however, nothing of this kind will ever occur to mar its beauty of action.

LOBELIN.

THIS resin is obtained from the Lobelia inflata (Lobeliaceæ,) known also as Indian tobacco, but, in consequence of its general employment by the followers of Thomson, it is as well known by its proper, as by its common name. Two concentrated preparations have been obtained from the Lobelia inflata, an oil and a resinous powder. Either seems to possess the medicinal virtues of the plant, but we prefer the resinoid—Lobelin. Lobelin is a yellowish, cream colored powder, which is greener when the Lobelin is made from the herb, with a pleasant, sweet odor, not very unlike old honey comb. Its taste is similar to that of the plant; one experiences but little sensation, until it has been held in the mouth for a while. Lobelia inflata, in the crude state, is a very powerful medicine, but either the essential oil or the Lobelin are infinitely more so. If employed by injudicious persons, the Lobelia inflata, in any form, is a dangerous medicine, and, we have no doubt, has caused many a premature death. If this is true, how exceedingly cautious ought persons to be in administering either the essential oil or the resinoid? It is a reliable and valuable medicine, when skilfully employed, and one on the action of which the physician can safely rely.

The advantage which the Lobelin enjoys over other preparations of the Lobelia inflata, is the smallness and convenience of the dose, which is so minute that it can be most effectually disguised. It may be regarded as a safe and efficient emetic, when properly used, and as one of the most relaxant nauseants we possess. As a nauseant, it becomes a certain sedative, a reliable diaphoretic, and, in short, a general prostrator of all the vital forces. As to its narcotic virtues, we have no confidence in it, as we think it destitute of such a property. Owing to its harshness of action, when given in a full emetic dose, we usually prescribe it, when we give it at all, in combination thus:

LOBELIN,
Sanguinarin,
Scutellarin.

We add the Scutellarin, to tone up the nervous system and prevent too much prostration. (See remarks on Emetics, pp. 60–62.) When combined with care, the Lobelin may be made to enter in numerous formula, especially such as are intended to promote diaphoresis, expectoration, or even emesis. It is certainly capable of modifying, to a considerable extent, arterial and nervous excitation, and may thus be employed in small quantities with perfect safety. In the treatment of all diseases characterized by rigidity, or spasmodic contraction of the muscles, we may safely depend on the efficacy of Lobelin, if given in proper doses. In severe cases of rigidity of the os uteri, we have known Lobelin to be injected per anum to overcome the constriction. For this purpose, we prefer a weak decoction of the Lobelia inflata, however. In the treatment of very painful ulcers, we may make an excellent anodyne salve, thus:

LOBELIN,
Morphine,
Gelsemin,
Hydrastine.

Such a combination is exceedingly soothing, and may be used with the expectation of doing much good. For internal administration, the Gelsemin should never be used in union with the Lobelin. Notwithstanding the fact that we thus speak

of this agent, we would have the reader to bear in mind constantly, that we use it as seldom as possible, and then only when we deem it the most indicated agent of its class. The dose of the Lobelin, is from HALF to ONE grain; that of the oil of Lobelia, ONE drop, rubbed up with refined sugar; and, where there is but little susceptibility of the stomach, it may be given in doses of TWO drops, and repeated as occasion may demand, provided the cerebro-spinal axis is void of disease. (See p. 62.) When Lobelin, or any form of Lobelia, produces great prostration, we must resort to nervines and stimulants; and, perhaps, it would be always well to give, soon after its operation, the following powder:

Capsicin,
Xanthoxylin,
Cypripedin,
Scutellarin.

Of course, the quantity of each should be small, otherwise we would get up an increased or augmented vital action, by no means desirable in the treatment of a number of diseases.

SANGUINARIN.

THIS resinoid is obtained from the Sanguinaria canadensis (Papaveraceæ,) which is known, in different localities, by the common names of Bethroot, Bloodroot, Red puccoon root, Turmeric, &c. The Sanguinaria has long been, and is yet, used by the Indians, both as a paint, and as a medicine. It has, from an early date, enjoyed considerable reputation in domestic practice, and among irregular practitioners. The profession had its attention called to it, in a proper manner, as early as 1824, when the alkaloid active principle was first obtained, and made the subject of several learned essays. The Sanguinarine—the

alkaloid—soon fell into disuse, and the profession almost entirely ceased to use the plant, until within the last ten years. Since that time, the Sanguinaria canadensis has gradually grown into much favor with all classes of physicians. Within the past few years, several impure active preparations of the plant have been prepared and vended; but it is only recently that the Sanguinarin has been obtained in a pure state, and properly introduced to the profession. Wherever it has been used, it is much admired, and we are fully convinced that it is now one of the permanent agents of the materia medica.

SANGUINARIN, as prepared at the American Chemical Institute, is a powder of a light reddish brown color, with a sweetish, nauseous, somewhat bitter taste, when swallowed, and an odor somewhat like damaged, unparched coffee. It possesses the properties of the root, except that it is less acrid and harsh in its operation. This is, probably, owing to the fact of its being free from the oil which is contained in the root. It is emetic, nauseant, somewhat sedative, tonic, and escharotic. As an emetic, it is seldom given alone, but, to procure free emesis, may be given in combination, thus:

SANGUINARIN,
Lobelin,
Stillingin.

It may be safely combined with other nauseants, to procure its expectorant virtues. It may be successfully employed in pulmonary and hepatic affections, dyspepsia, jaundice, rheumatism, pneumonia, bronchitis, scrophula, amenorrhœa, croup, &c. Combined with Stillingin, Phytolacin, Rumin, &c., it is a good alterative, but it is in combination with cathartics that we see the real value of Sanguinarin. In treating the hepatic affections of the South, we have found the following powder act most kindly:

SANGUINARIN,
Podophyllin,
Leptandrin,
Caulophyllin,
Stillingin,
Phytolacin.

When we read of such cases as that of Bonaparte, on the Island of St. Helena, we always feel a deep regret, that he could not have been properly treated, with some such a combination of agents as the above, for it is in such cases that these new remedies demonstrate their superiority over the old remedies which have for centuries proved their inadequacy to break up deep seated hepatic disease, and secure a permanent cure. From the nature of the agent, no physician will fail to see the extended application of the Sanguinarin, in the treatment of disease. The dose, as an alterative and tonic, is ONE grain; as an emetic, TWO grains; and, sometimes, where the patient has a strong constitution, as much as FOUR grains.

The Sanguinaria canadensis ought to be cultivated for the use of pharmaceutists, as it might be made to grow to great perfection, by transplanting and proper cultivation. It has often occurred to us, as being a little strange, that some of our enterprising farmers did not go South, and grow, for this and European markets, many of our indigenous plants. We feel confident that such an enterprise would be profitable, and be a very pleasant occupation, as well as a healthy one. It would not be difficult to find any quantity of land, which might be purchased at government price, and that, too, within reach of good markets. The enterprise, being a new one, will, of course, deter the timid from embarking in it; but there are persons who can readily appreciate this hint, and to such, we say, try the operation; the experiment will cost but little labor, and less capital. People must be doctored, as well as fed.

LEPTANDRIN.

LEPTANDRIN is a resinoid principle, which is obtained from the root of the Leptandra Virginica (Scrophulariaceæ.) This plant is known in the country as tall Speedwell, Blackroot, Culver's physic, &c. It belongs to an extensive order of plants, and even to a genus which is composed of many species. The whole genus possess more or less medicinal worth, but not one of the species seems to rival the Virona Virginica, or, as modern botanists have it, the Leptandra Virginica. As a medicine, the Leptandra has not been long known to the whites, though it is, and, perhaps, has long been used by the western Indians. Within a few years, the Leptandra has obtained great popularity in the treatment of dysentery and numerous other diseases. We have closely watched the action of Leptandra, as well as its active principle in the system, and are well satisfied that it is a valuable addition to our materia medica. The crude article was alone used, until the recent extraction of the active principle. This has proved very advantageous, as the dose of the crude article was too large for convenient administration. On this account, patients often refused to take it; besides, a portion of the powdered root, not being soluble, often caused more or less irritation of the stomach. The preparation under consideration, removes those objections, and enables the practitioner to prescribe the medicine in full doses to delicate persons, who no longer object to it on account of its size.

Leptandrin is a deep brown powder, slightly tinted with scarlet. It has a rather disagreeable rancid odor, and a taste which is at first rather astringent and sweetish, but which soon

changes to a slight bitter, which, though not pleasant, is by no means very disagreeable. The Leptandrin seems to possess the medicinal virtues of the root in a concentrated form. There are few agents in the materia medica which act with more consistency and certainty than the Leptandrin. It is not by any means a drastic cathartic, but it is one which will always prove gently laxative, having, in this respect, the advantages of most cathartics, in the treatment of either chronic diarrhœa or constipation, dependent on a deranged condition of the liver. When given in large dose, with the view of producing free and copious catharsis, it is apt to produce much irritation and bloody stools. This result follows the administration of inordinate doses only. When called to treat a case of habitual constipation, we will find the following a reliable formula:

LEPTANDRIN,
Podophyllin,
Xanthoxylin,
Caulophyllin,
Stillingin.

Or, when called to take charge of an opposite condition, which, however, arises from a similar cause, we may give after a brisk cathartic, the following:

LEPTANDRIN,
Xanthoxylin,
Sanguinarin,
Phytolacin,
Hydrastin,
Irisin.

This, in a great majority of cases, will correct the liver, and tone up the intestines to a state of health. If, however, the liver should be greatly impaired in its functions, we should rely upon some of the formulas already given, or give:

Podophyllin,
LEPTANDRIN,
Caulophyllin,
Irisin,
Sanguinarin.

In treating disease everything depends upon a correct knowledge of the causes of disease, and the true therapeutic value of the agent used. A great number of diseases depend upon some diseased condition of the liver, and as Leptandrin exercises a special influence over that organ, we shall be called on to prescribe it very often. Leptandrin not only stimulates and gives a proper tone to the liver, but it seems to possess great influence over the whole glandular system. In mesenteric disease, in combination with small quantities of Podophyllin and Phytolacin, or Stillingin, it acts most satisfactorily.

Perhaps no agent has gained more popularity in the treatment of dysentery, than the Leptandrin in union with Podophyllin, and other agents which have been already noticed. We have ourselves been surprised at the promptness of the appearance of its sanitary influence in dysentery and bilious diarrhœa. Owing to the mildness of its action, it may be safely prescribed to patients of every age, sex, and constitution. It has been much used in treating dyspepsia thus combined:

LEPTANDRIN,
Phytolacin,
Cypripedin,
Xanthoxylin,
Hydrastin,
Helonin.

And the success which has attended the administration of the formula, has been in every case, so far as we are informed, most astonishing. By adding Podophyllin and Stillingin, instead of Xanthoxylin and Helonin to the above, we have a most excellent formula for the treatment of secondary syphilis and scrophula.

Leptandrin is not only laxative, but it is decidedly alterative and tonic, and hence, if any of the concentrated medicines may be given alone, this seems to be the one. It may safely be administered to keep the bowels in a good soluble condition, when it is necessary to husband the strength of the patient, as in typhoid fever and typhoid pneumonia. In peritonitis, it may be safely administered, when drastic cathartics would be

inadmissible. Combined with Hydrastine or Quinine, Leptandrin may be advantageously used in the treatment of intermittent fever. It produces black, tarry discharges, of a very offensive and unhealthy character, which gradually assume their natural color and characteristics, leaving the patient stronger, and better able to bear fatigue than before the operation of the medicine. In the administration of Senna, Jalap, and saline cathartics, and, indeed, almost the whole of the class, the patient is left, after the action of the medicine, in an enfeebled condition, from which he does not recover in some days, unless we resort to stimulating tonics.

The dose of Leptandrin is TWO grains; or, in case the patient is of a very robust constitution, we may give as much as three grains. When given in too large doses, we are apt to nauseate the patient. Perhaps, the better way to administer Leptandrin is to give it in half grain doses, and repeat them every two hours. We may increase its action, by such agents as Xanthoxylin, Capsicin, &c.; and retard its operation, by narcotics, such, for example, as Morphine, &c. Like the Podophyllin, Leptandrin has rapidly gained favor with the profession, until it is difficult to supply the demand for it. We shall refer to this agent very often in the course of this treatise.

Having now treated of Leptandrin, in a brief and pointed manner—in a manner that will, we trust, be perfectly intelligible—we beg to notice it as an agent in the treatment of some particular disease; and, as we could not select a more important one than typhoid fever, we shall examine its nature, and show the indications for Leptandrin, in its treatment. Typhoid fever, and typhoidous diseases, are becoming rife in this country, and we should study well its causes, symptoms, progress, and treatment. It is not every fever that approaches slowly, or is of a low type, that is typhoid fever, and we are well persuaded that much is called typhoid fever, that is really no such thing. Typhoid fever is slow and insidious in its attack upon the system; and, if we closely observe the symptoms of the disease, we shall be led to the causes, and thus be enabled to prescribe rationally in its treatment. Few typhoid patients are

able to fix upon the beginning of the attack; but, occasionally, when it almost amounts to remittent fever, the disease is ushered in with a chill, followed by more or less fever, which does not afterwards entirely leave the patient, until the beginning of convalescence, or a prostration which ends in death. The first the patient notices, is that he has some headache; soreness on touching the surface; he feels, in his limbs, as though he had taken cold; the skin is alternately hot and dry, with chilly sensations. There is more or less debility, the appetite fails, the bowels may be either slightly constipated, or there may be a tendency to, or even open diarrhœa. The patient complains of flushes of heat; the pain in the head increases; the pulse is slightly accelerated; the patient becomes restless and irritable; the tongue is only slightly coated, and the patient is fairly under the disease—typhoid fever.

From this time we notice an augmentation of all the symptoms: the pulse is quicker, hard, and wiry: there is more or less diarrhœa, or else more confirmed constipation; the urine is rather diminished in quantity, and more colored; the bowels are inordinately sensible to the influence of cathartics—and medicines which are decidedly such, are apt to cause prostration and inordinate discharges; the skin is dryer and harsher; the temperature of the body is increased very sensibly, though not as much as in other fevers; there is considerable pain in the head; the face is usually flushed, and looks dry; the fur on the tongue increases, and the edges are somewhat reddened; the stomach becomes irritable as the disease progresses; some pain is soon felt in the bowels, which is increased on pressure; soon we have symptoms of tympanitis; the abnormal condition of the skin is soon extended to the bronchia, and we have a slight cough: the patient expectorates a little mucine phlegm. As the disease progresses these symptoms become more positive; the tongue becomes much dryer and darker in the middle; the saliva appears tough, and has a cottony appearance; the throat is now dryer, and deglution somewhat painful; the bowels are now so sensitive that the mildest purgative is apt to act with vigor; the evacuations are apt to be watery, and very offensive.

When the stools have been suffered to stand awhile we may see on them small specks of bloody mucous, and at the same time, we shall observe an eruption on the abdomen which is peculiar to this disease, and not very unlike ordinary flea bites. Soon we notice the ravages of the disease on the nervous system, and there is manifested more or less cerebral disturbance. The patient becomes the subject of all manner of hallucinations, which continue until the true typhoid conditions of the disease are fully established. The patient now lies in a comatose condition; the mouth open and sordes appear on the teeth; the pulse is very quick; some portions of the surface are warmer than others, and the whole is dry and harsh. There may now be involuntary discharges from the bowels and bladder; or in some cases there is a retention of the urine; epistaxis may now appear and sometimes become a formidable symptom. The pulse grows weaker, the skin moistens, the body becomes cool, and the patient is soon numbered among the dead!

Such are some of the more prominent symptoms of a well-marked case of typhoid fever, and it is our place, when called to treat such a patient, to commence an immediate search for the causes upon which these symptoms depend. Perhaps the best way to get at the causes on which the above symptoms depend will be to examine some of the anatomical phenomena which become apparent upon post mortem examination.

The heart is most commonly softened, and at the same time, diminished in size. The lungs are of a bluish red appearance, and when cut, discharge a thick reddish fluid. There is some vascular engorgement of the mucous membranes of the air passages. Little or no changes are detected in the brain; or if any changes are noticed, it usually amounts to no more than an effusion of serum between the membranes. We may often observe ulcerated points in the pharynx. The stomach is always more or less diseased, though many suppose this to be so, independent of the typhoid fever. The small intestines are mostly filled with flatus; the fluid contents quite thin and mixed with mucine matter, which may sometimes be sanguinous. And it is not unusual to find clots of coagulated bloody lieing, loose in

the tract. The mucous membrane of the large intestines is more or less affected, and may occasionally be so severely so as to result in partial, or even in perfect disorganization in those cases which terminate fatally. Not unfrequently, when the disease is not malignant, there may be simply a thickening of the mucous membrane of the large intestines. The glands of peyer are often much diseased—hypertrophied and ulcerated. It is in the region of the ileo-cœcal valve that the ulceration is most complete. It may be so marked as to involve the muscular and peritoneal coat, which often results in the perforation of the bowels. We also, often notice a peculiar diseased condition of the mucous membrane of the cæcum and colon, in the more protracted cases of typhoid fever. The mesenteric glands are almost always redder, increased in size, and softer than natural; or, when the disease has been very protracted, the prominent symptom of disease in the mesenteric glands is the appearance of certain purulent points filled with a yellow mucous-like matter. The lymphatic glands of the entire system are generally more or less diseased, which is a symptom peculiar to this disease. The spleen is always enlarged, softened, and darkened in color. The most prominent symptom of a diseased condition of the liver is softening. It is also lighter in its color. Such are some of the more prominent anatomical phenomena attending a case of well developed typhoid fever, and from these phenomena and the previously noted symptoms, we think it will not be very difficult to get at the causes of the disease, which must be well understood to enable the practitioner to predicate a rational plan of treatment.

Typhoid fever is, we think, caused by an idio-miasmatic influence, which may arise either from decaying animal or vegetable matter. Where large numbers of persons are crowded together in ill-ventilated houses, or where cleanliness is neglected, there seems to be a poisonous effluvia thrown off from the body, which is capable of inducing in a body predisposed to fever, those pathological conditions which are favorable to the development of Typhoid fever. The surest prophylactic, then, is to guard against the exposure of the system to this human effluvia,

or this idio-miasmatic influence—to keep the body clean, live and sleep in well ventilated houses, and keep the general system in a condition to throw off disease-engendering impressions, no matter from what cause they may arise. The organic or enteric lesions, which so constantly occur in typhoid fever, are not to be regarded as causes of the disease, but as resulting from an improper circulation of the nervous currents. The great nervous centres seem to be all embarrassed in typhoid fever, and it should be one of the first objects of the physician to get the nervous system in a good healthy condition—in doing this he will often have cured the disease. As typhoid fever is not an inflammatory disease, we must be careful in prescribing, or even in adopting a general plan of treatment. About no disease has there been more disputation regarding its proper treatment, than the one under consideration. We shall not take sides with any or either party, since we are not writing a treatise on the general practice of physic, and have introduced this collateral subject only to illustrate the virtues of a single medicine, which we desire to see more extensively used by the profession.

In reference to the treatment of typhoid fever, we may observe in the outset that all harsh, irritating or debilitating remedies should be avoided. That we must husband the strength of the patient as far as possible. We have indicated the pervasion of the system with a malarial poison, and if the predication be correct, we should by all means aid its elimination from the system; and while doing this we must be careful to avoid the use of such agents as diminish the vital forces, or locally irritate the intestinal disorder. The system should be sustained against the depression which is consequent upon the ravages of the disease. The symptoms and anatomical phenomena, all indicate an inactive or abnormal condition of the liver and glandular system, and of the nervous and cutaneous functions. Now, then, experience has taught us that the great majority of cases of typhoid fever may be arrested within two days' time, if we adopt the proper plan of treatment. To meet all these indications, we make the following prescription, which has proved eminently successful:

Hydrastine,
LEPTANDRIN,
Asclepin,
Eupatorin,
Cypripedin.

This formula, if given with the proper caution, and the patient be allowed to drink freely of almost any moderately warm and mucilaginous drink, will be sure to cut short the disease; and to prevent a return, we give the following powder in small proportions of each article:

Asclepin,
LEPTANDRIN,
Hydrastine.

If the disease had considerably advanced we should commence with the second, instead of the first formula, and if tympanitis should be present, we should combat it with Ol. Turpentine, beat up with the white of egg, or give the following:

Oil Erigeron,
Pure Albumen,
Cypripedin,

made into a pill or lozenge, and administered in small doses, while we placed a small, slightly rubefacient plaster over the tympanitic region, and inject, per anum, some slight, stimulating anodyne mixture. If the case is so malignant as not to be made to yield by the above course of treatment, the physician is not warranted in adopting a more heroic course of treatment. To calm the nervous irritability which comes on when the disease approaches a crisis, it is best to give:

Scutellarin,
Cypripedin,
Apocynin,
Lupulin.

About the time of the crisis of the disease, when there is much thirst, give the amoniated julep, and wash the mouth with the same, somewhat more acidulated, by putting a few drops of acitic acid, or make a decoction of Geranium macula-

tum, and wash the mouth with it. When all other means have failed, and the patient is rapidly sinking, we may resort to diffusible stimulants, and endeavor to get the system under the influence of Hydrastine and Leptandrin. We feel persuaded, however, that when the physician is called in due time, and he adopts the course of treatment already indicated, he will seldom find his patients in this low, sinking stage, which is so very difficult to treat successfully. Typhoid fever is a prevalent disease in some sections, and we must learn to cure it—and that by remedies more reliable than those formerly used. Dose, 3 grs.

EUONYMIN.

THIS resinoid is obtained from the Euonymus americanus (Celastraceæ.) It is known by the common names of Wahoo, Burning bush, Spindle tree, &c. There are three varieties of this plant, which have been used in medicine, and which have been noticed in most modern works on materia medica, or medical botany. Though the plant and its varieties have been so uniformly noticed, it does not seem that its true properties have been known, in all cases, since writers by no means agree as to their character. The Euonymus atropurpureus has generally been considered as superior to the E. americanus, until recently; now, however, respectable authorities say there is but little per-

ceptible difference between the European variety, E. europæus, and the two American species, E. atropurpureus and E. americanus. The Euonymus americanus, from which the Euonymin is obtained, is a smaller bush than the E. atropurpureus, but yields the active principle more abundantly. The medical properties of the two species are almost identical, in our opinion; the only advantage possessed by the E. americanus over the other variety, being the greater yield of the resinoid.

The Euonymin is a drab colored powder, not very unlike Phytolacin; its odor is rather unpleasant, and its taste similar to Xanthoxylin, except it is a little more aromatic. It is a laxative tonic, and a mild, pleasant expectorant. As a tonic, it may be used wherever tonics are indicated, especially for improving the condition of the stomach; and to unhealthy entozoic children, and delicate females, who are very irregular in their periods of menstruation. Also, it may be given, with much advantage, in torpid conditions of the liver, thus combined:

Leptandrin,
Sanguinarin,
EUONYMIN,
Podophyllin.

We have already given a number of formulas in which it acts well. (See pp. 114–130 et. seq.) As a vermifuge, it may be given in union thus:

Chelonin,
EUONYMIN,
Xanthoxylin,
Caulophyllin,
Irisin.

When it is given in chronic constipation, it should be thus combined:

Leptandrin,
EUONYMIN,
Apocynin.

We have, however, already given formulas for chronic constipation, which we like better than the above, (see pp. 102, 124,

125, 127, &c., et. seq.) In the treatment of dyspepsia of an atonic kind, we have found the following formula, when persevered in, to be generally sufficient to either remove the atony, or even the disease:

EUONYMIN,
Xanthoxylin,
Rhusin,
Scutellarin.

Of course, much will depend on a proper system of dietetics, and an avoidance of predisposing causes. The practice with too many, we fear, in the treatment of dyspepsia, is to adopt a heroic plan of treatment, which does more harm than good to the patient.

IRISIN.

IRISIN is the resinoid active principle of Iris versicolor (Iridaceæ,) which is also known by the common names of Blue flag, Flag lily, &c. The Iris tribe of plants is a very extensive one, and numerous species are used in the practice of physic. The roots of the whole family are pervaded by an acrid juice. When dried, much of this acrimony, which appears to depend in a great measure on a volatile oil, is dissipated. The I. florentina and I. pseud-acorus, are, next to the I. versicolor, most used in medicine. There are numerous other varieties of the Iris in America, but not much, or perhaps, never used in medicine. Several writers on materia medica, recommend it in the treatment of numerous diseases, while others seem to be afraid of it, and intimate that it ought to be stricken out from the list of the materia medica. Because some one person has given it in

an over dose, and thereby become frightened as to the probable result, is that a reason why it should be pronounced dangerous in proper doses, or that the profession should be asked to discard it? We answer, certainly not; for if our materia medica embraced only such agents as had never acted harshly under any circumstances, and none which had not been condemned, the practice of physic would certainly be orthopathic.

Seriously, we may ask, if gentlemen of the profession are not too hasty sometimes, in pronouncing on the merits or demerits of an agent? There seems to be an inherent idea in the minds of many practitioners, that American plants are valueless as medicines, and that we ought to import our medicines, as we do our tea and coffee. On the other hand, the people having been often compelled to use our indigenous plants, because they were unable to procure others, have demonstrated, beyond all dispute, the value of many of our most despised plants, in the treatment of their maladies. Because the Iris versicolor, given in too large doses, has been known to cause prompt emesis and catharsis, and thus greatly weaken the patient, we are no more justified in condemning it as a medicine, than we would be justified in condemning the Stramonium, because the Jamestown settlers had tried the experiment of using its leaves as salad, and thereby were made sick. Having, ourselves, the utmost faith in the goodness of God, we feel confident that for every malady arising from peculiarities of a locality, there also will be found in that locality, a proper remedy for the disease, and that *every* plant, as well as every atom of matter, has its appropriate use. This idea is old, but we believe it to be true. However, true or false, we shall so continue to think, until we see just cause to change our opinion.

The Iris versicolor is a valuable medicine, and, during the past ten or twelve years, has been extensively employed, as a cathartic, alterative, sialogogue, anthelmintic, and diuretic. The resinoid, Irisin, in its present form, is rather a new remedy, having been obtained within a few years, but has been extensively employed, both in private and hospital practice, and has everywhere been so consistent and certain in its action, that it

has made friends in all sections of the country, and among all classes of physicians. It is destined, we think, to take a still higher place in the estimation of physicians, than it has hitherto attained, since it is now prepared very pure.

IRISIN is a dry, rich, cream-colored powder, with a garlicky odor and taste. It is one of the most beautiful of the concentrated preparations, and possesses, in an eminent degree, the properties of the root, unless we say it is somewhat less diuretic. It is capable of filling many indications, a few of which we shall notice. It combines finely with a number of preparations; and, in combination, we have already refered to it. As a cathartic, it acts on all parts of the canal, but more particularly on the upper portion, stimulating the liver and pancreas to active efforts. When given in proper combination and in quantities insufficient to produce catharsis, it is a valuable alterative, stimulating the entire glandular system, and causing the emunctories to act with increased vigor. It is capable of producing, when combined with Podophyllin and Xanthoxylin, well marked ptyalism, and a copious discharge of saliva. In the treatment of dropsies, it may be thus combined for administration:

IRISIN,
Apocynin,
Podophyllin,
Senecin,
Caulophyllin.

In treating syphilis, which has already begun to seat itself in the constitution, we think this agent may be relied on, when united with other proper agents of its class, thus:

IRISIN,
Stillingin,
Phytolacin,
Macrotin.

We shall, however, give other formulas for the treatment of syphilis. This is a reliable formula when we wish to make the Irisin a leading remedy; and, whether leading or not, we shall never do wrong by combining it with other alteratives, in the

treatment of syphilis, scrophula, and all other constitutional forms of disease. It will, of course, be remembered, when giving the Irisin as an alterative, that it must be given in small doses. Irisin has been much used in treating chronic hepatitis, generally thus combined:

IRISIN,
Podophyllin,
Leptandrin,
Xanthoxylin,
Hydrastine.

Others prefer different formula, and we have ourselves often prescribed others. The reader must bear in mind that we give only the formula which we should make up when desiring to make a particular agent the most prominent article employed. There is the same variety in making up formula of the concentrated articles, that there is in prescribing crude articles. Many physicians, in using the Irisin in the treatment of chronic hepatitis, would make very different combinations, and most generally this one:

IRISIN,
Xanthoxylin,
Podophyllin,
Sanguinarin.

Others would prefer still different unions, but we give only those formulas which we ourselves have tried, and like, or have been sufficiently used and tested by those on whose veracity we can rely. Prescriptions may be made to vary by a great many considerations, and whoever endeavors to fill all the indications which present themselves, will seldom make up two prescriptions exactly alike in every respect. One may contain more or less agents than another, or greater or less quantities of each article than others. For example, we prescribe:

No. 1.—Podophyllin,	2 gr.	}	This will purge.
Leptandrin,	2 gr.		
Hydrastine,	1 gr.		
Asclepin,	¼ gr.		
Irisin,	1 gr.		
Sanguinarin,	¼ gr.		

No. 2.—Podophyllin,	⅛ gr.	This will vomit.
Leptandrin,	¼ gr.	
Hydrastine,	1 gr.	
Asclepin,	½ gr.	
Irisin,	¼ gr.	
Sanguinarin,	8 gr.	
No. 3.—Podophyllin,	⅛ gr.	This will sweat.
Leptandrin,	¼ gr.	
Hydrastine,	½ gr.	
Asclepin,	4 gr.	
Irisin,	¼ gr.	
Sanguinarin,	½ gr.	
No. 4.—Podophyllin,	⅛ gr.	This will constipate.
Leptandrin,	⅛ gr.	
Hydrastine,	3 gr.	
Asclepin,	¼ gr.	
Irisin,	⅛ gr.	
Sanguinarin,	⅛ gr.	

Thus it will be seen, that in making up our prescriptions in practice, we can throw them into almost any class of medicines we choose by simply altering the proportions of each agent. Irisin is a slowly operating medicine, well adapted to the treatment of disease occurring in old persons. Its action is rendered more speedy by the addition of a little Capsicin, Xanthoxylin, or any stimulant. Caulophyllin will correct any symptoms of harshness which may arise. To stimulate the uterine functions it is often thus combined:

Caulophyllin,
IRISIN,
Macrotin,
Scutellarin.

Indeed the Irisin may be employed in a great number of diseases, as will be readily apparent from what has been already said of it. The ordinary dose of the pure article, as prepared at the American Chemical Institute, is ONE grain. But cases may arise when two and even three or four grains, will be ne-

cessary to produce free catharsis. As an alterative, one-fourth of a grain given four times a day is sufficient to begin with.

There are certain persons with whom Podophyllin and Leptandrin will not agree, owing to some peculiar idiosyncrasy of the constitution, as there are persons whose systems will not tolerate opium from a similar cause. To such persons we may, generally, safely prescribe the Irisin in combination, as we have mentioned. The only way to become perfectly familiar with this or any other medicine is to use it. We feel persuaded that all who use the Irisin will be pleased with its operation.

RUMIN.

This resinoid is obtained from the roots of Rumex crispus (Polygonaceæ,) or Yellow dock, as it is commonly called. There are many species of the dock, most of which have been used in medicine, but unquestionably, the Rumex crispus is most deserving of attention. It was introduced to the profession by the empirics, who have long used it with marked advantage.

Rumin, the active principle of Rumex crispus or yellow dock, is a reddish brown powder, smelling not very unlike a dirty stocking just taken from the foot, and a peculiar, disagreeable, slightly astringent taste. It possesses the virtues of the root, being alterative, tonic, and slightly astringent. In treating scorbutic cahexy, we shall find it a valuable remedy, in union with other agents thus:

Stillingin,
Phytolacin,
Xanthoxylin,
RUMIN,
Irisin,
Hydrastine.

and the same formula may be made serviceable in the treatment of cutaneous disease, if we substitute Asclepin for the Irisin, and Lobelin or Sanguinarin for the Hydrastin. It has been much employed in the treatment of secondary syphilis, and in scrophula, though we prefer other agents for such purposes. It is a good alterative, especially where there is a tendency to chronic diarrhœa. The crude article has been much employed in compounding patent alterative syrups. An ointment may be made by mixing the Rumin with cream or fresh butter, and rubbing the surface of the body in the treatment of itch, though in this we have not ourselves seen it used. It has, nevertheless, been so recommended in standard works, and we are informed, by those who have so used it, that its action is satisfactory. The ordinary dose of the Rumin, for an adult man, is TWO grains, which may sometimes be increased to three. As an alterative it is best to give it in half or one grain doses, three or four times daily. "Yellow dock and Sarsaparilla" have been so much used, that we need not fear to administer the resinoid, since we are not certainly aware that it has ever acted very harshly.

ALNUIN.

THIS resinoid is obtained from the Alnus serrulata, or Alnus rubra (Betulaceæ), by both of which names it is known among botanists. It is the common red or tag alder, which is more commonly called Alder tag in the country. It is found in most parts of the country, but especially in the South, where it is in bloom, and ripening its seeds nearly the whole year. There is a common remark in the South that it flowers every month in the year except February, and the assertion is very nearly true. The bark, which is the officinal portion, is used in Alabama, Georgia, and Florida, in the treatment of fevers by the people.

They usually make a decoction of the bark and drink freely of it. Many of the more ignorant believe that if the bark be peeled up it is an emetic, and a cathartic when peeled downwards. Of course, the supposition is wholly unfounded, though we may infer that it sometimes acts in both directions, in consequence of the large quantities of the tea which is often drank; for the bark is said to be slightly astringent. We are better acquainted with the active resinoid principle than with the operation of the crude article.

The Alnuin prepared at the American Chemical Institute is a brownish powder, having a rather pleasant odor and taste. It is nearly destitute of astringency, although it evidently possesses some degree of that character. As a medicine, it is more perfectly an alterative than anything else, and as such, is employed with the best results in a number of diseases. In scrophula and constitutional syphilis it may be thus employed:

ALNUIN,
Phytolacin,
Irisin,
Xanthoxylin,
Asclepin.

Combined with Asclepin and Gelsemin, it may be employed in the treatment of bilious and other miasmatic fevers; and when combined with Hydrastine and Xanthoxylin, may be appropriately employed in the treatment of intermittents. It is a good nauseant, and may be used along with Asclepin to produce diaphoresis. We have thus used it on ourselves with the happiest results. The dose of Alnuin, as an alterative, is one grain; as an emetic, four grains; as a nauseant, we may give two grains, and then keep up nausea by the administration of half grain every hour.

OL. ERIGERON.

This is an essential oil, which is obtained from the Erigeron Canadense (Asteraceæ), or Canada fleabane. This is a large family of plants, and several species have been used in medicine. We may mention the E. annum, E. heterophyllum, E. philadelphicum. They are all more or less valuable, but we prefer the E. Canadense.

The Oil of Erigeron is a very fluid, straw-colored oil, with a pleasant weed-like odor, and a diffusible, rather agreeable taste, which leaves an impression in the mouth that is recognised as being similar to the odor of the oil. It possesses rare properties, and is every way worthy of the attention of the profession. The Ol. Erigeron is diuretic, tonic, and astringent, or perhaps more properly styptic. The E. canadense possesses the above-named property in a much greater degree than any of the other species. We think, also, that locality has something to do with its properties. If, as we suspect to be true, the southern plant contains a greater quantity of oil, it might be made exceedingly profitable to manufacture it on a large scale, in certain localities, where the plant attains a height of eighteen to twenty feet, and so thick that one with difficulty gets through it.

When given as a styptic, it is capable of almost certainly arresting uterine hemorrhage, hemorrhage of the lungs, and intestines. It is a reliable and effective remedy in the treatment of palpitation of the heart arising from uterine disorder. Dissolved in alcohol, it is an excellent external application in the treatment of rheumatism, and local inflammations in general. It

may also be employed internally in treating dysentery, diarrhœa, the dysury of children, and in every case where either tonics, astringents, or diuretics are indicated. Combined thus:

Ol. Erigeron,
Ol. Turpentine,
Ol. Olivæ,

it forms an excellent mixture for external application in the treatment of the various kinds of sore throat. For internal administration, in the treatment of hæmeturia, we prefer to give it alone, or else thus:

Ol. Erigeron,
Ol. Cinnamonum,
White Sugar,
Gum Arabic.

Or the simple oil may be dropped on a lump of sugar and thus chewed up and swallowed, or allowed to dissolve in the mouth and then swallowed. It seems to exert a peculiar styptic influence over the blood, and at the same time to act as a renal stimulant. Of course, in common with essential oils, it is a carminative, or what is commonly so called. The dose of the oil of Erigeron is from two to ten drops, according to the indications, dropped on sugar, or dissolved in alcohol.

SENECIN.

This resinoid is the active principle of Senecio gracilis (Asteraceæ), or Life-root, Uncum, Female regulator, &c. There are several species of the Senecio, all of which have been used as medicines; the preference, however, has, we believe, been everywhere conceded to the one under consideration, and from which alone, the Senecin is prepared.

Senecin, as prepared at the American Chemical Institute, is a dark, yellowish green powder, with a peculiar unpleasant odor, and a nauseous, somewhat bitterish taste. The color of the Senecin may vary with the process of getting it out, from a whitish brown, to the color of the specimen we have indicated. It contains, in a concentrated form, the medicinal virtues of the plant. Many attempts to prepare this agent, in the form of a powder, by others engaged in the preparation of medicines, seems to have entirely failed, since a tarry oil only, we believe, has been obtained, by any other establishment than the American Chemical Institute.

Senecin has been much employed in the treatment of numerous uterine affections, and from what we can learn, with marked success. It is diuretic, diaphoretic, and tonic. As a diuretic, it has much reputation, especially when in fevers the urinary function is performed with much languor, and there is a marked diminution of the quantity of urine voided. It may be also used with advantage in the various dropsies, when such an agent is most generally indicated. For promoting the menstrual flow we may rely on the following:

SENECIN,
Caulophyllin,
Macrotin,

which is to be given in small doses, often repeated, and with an abundant supply of warm tea, a few days before the regular period of menstruation. If the above should fail, which will be very seldom, we may add to its powers, and perhaps secure the desired object, by giving, along with the above, one drop of the Oil of Savin. Now, though either of the above concentrated remedies, or the Oil of Savin, would promote the menstrual flow, we prefer the combination, because there is a qualifying influence exerted by one agent over another, and their united action, while equally as sure, is less harsh than either one might be. Suppressed menstruation, as before remarked, may, however, arise from a variety of causes, and, to suppose that the above or any other prescription will bring on the menstrual flow in every case, is out of the question. If the suppression arise from cold,

we shall do as much towards restoring the function with diaphoretics as with the so called emmenagogues. If the suppression depends on local congestion or inflammation, our attention must be turned to its removal. If it depend on torpidity of the intestines a brisk cathartic, or one, especially, which irritates the colon, will usually be our best remedy.

We occasionally, and, indeed, too often in high life, meet with females who menstruate always with much difficulty, and suffer very much while the function is being performed; females who have in plain words, dysmenorrhœa. This affection has often baffled the most skillful practitioners, but we think most cases may be made to yield under the use of the following remedies, given regularly a few days before the regular catamenial period:

SENECIN,
Asclepin,
Macrotin,
Cypripedin,
Helonin.

If there is much nervous excitement we may omit the Helonin, and substitute therefor the Scutellarin. We should also suffer the patient to drink freely of slippery elm bark tea, or some such a preparation—to sponge the body in tepid water, and keep in an even temperature, at least as high as 60° Fahr., but with a free access of fresh air. It is next to useless to give agents for the purpose of affecting the menstrual organs, except just before, and at the regular periods, and we should never fail to see whether the suppression does not depend on proper causes, before prescribing at all. It is not unusual to find the female system, when requiring the use of this class of agents, in an atonic condition, and as the Senecin is a rather reliable tonic, we may depend on its beneficial action, provided we combine it with Hydrastin and Helonin.

In chlorosis, we shall find the following a good formula:

Hydrastin,
SENECIN,
Asclepin,
Scutellarin,

It is very true, chlorosis is natural enough, and when occurring in young persons, usually passes off as soon as the menstrual flow occurs; but it is not unfrequently the case, that the system is so depraved that the foundation is laid for much future bad health, and if we act wisely, we shall tone up the system until nature has overcome all obstacles and asserted the supremacy of her sway. We are no advocates for unnecessary medication, and seriously believe too much medicine is used; but the surest way to avoid this latter evil, according to our experience, is to take the system in charge while it is yet filled with vigorous vitality, and kindly assist the vis medicatrix-naturæ to maintain a physiological condition. The earliest scintilations of a diarrhœa may often, and most commonly, be arrested by a few drops of laudanum, or a swallow of any astringent draught. But when it has progressed sometime, and its ravages have been extensive, it will require many drops of laudanum, or much of an astringent draught; and so it is with other diseases: if we take them in hand in time, there are few diseases beyond the reach of the physician's skill.

The Senecin is said to be expectorant, and so it is, simply because it is more or less stimulant, and so too, in proper combination it is diaphoretic, and tonic. It is a slow but very certain tonic, and as such an alterative, though by no means as good as others which we shall notice. Senecin is given in doses of from TWO to five grains, according to the indications, three times a day.

PHYTOLACIN.

PHYTOLACIN is the active resinoid principle of Phytolacca decandria (Phytolaceaceæ,) known also as Poke, Pokeberry, Coakum, Pigeon berry, Poke salad, &c. The Poke is known in all parts of this country, and by everybody who has been raised outside of city bounds. In some portions of the country it is much used as early spring greens. When cut while very young and tender, it seems to be quite harmless, but becomes unfit for food as it acquires age. The negroes use it very much, and say that it must be boiled with plenty of fat meat to render it perfectly harmless. This seems to us quite probable. As a medicine, it has not been much used in domestic practice, though we have sometimes known it to be used, and especially in the treatment of itch. For this purpose, the green root is usually procured, and when boiled in water a sufficient time to extract its virtues, the patient is stripped and washed with the decoction. In a few minutes, the body is covered with ridges, as though it had been beaten with a switch. There is much pain felt, which lasts for half an hour or longer. The itch is, of course, most effectually cured. The Phytolacca decandria is, in large doses, powerfully emetic and cathartic, and, on account of its harshness, is not often prescribed.

Phytolacin, the resinoid, is a light, greyish brown powder, with an exceedingly unpleasant odor, not very unlike Rumin, and a taste similar to its odor, and certainly by no means pleasant. It is nauseous, and one who has used it for any length of time, does not soon forget it. It is a valuable agent, and one which is eminently deserving of the attention of the profession. It is less powerful as an emetic than the

crude article, considering its concentration; but much more narcotic. Its prominent virtue, however, is its alterative property. It has few if any superiors, if, perhaps, we except the Stillingin, in the materia medica. This is a prominent characteristic of the Phytolacca decandria, which is also much used in certain parts of the country, as almost a certain specific for secondary syphilis. It is thus used by both the Indians and negroes, and was so used by the frontier practitioners, until the discovery of the Stillingin and Phytolacin, since when, of course, the resinoid under consideration has been adopted in preference, as it is much more convenient for administration, as well as more certain in its action. When we are called to treat a case of syphilis, no matter how recent, it will be at all times proper to give the Phytolacin, as it prevents the change of primary into secondary syphilis, by expelling the virus from the system. For such a use, we may make the following prescription:

PHYTOLACIN,
Stillingin,
Senecin,
Asclepin,
Podophyllin,
Leptandrin.

Of course, the proportions of each of the above agents must be small, for either of them is capable of curing syphilis, when properly administered. Thus, if we do not wish to give so many agents at once, we may simply unite:

PHYTOLACIN,
Leptandrin,
or:
PHYTOLACIN,
Podophyllin,
or:
PHYTOLACIN,
Stillingin,
or:
PHYTOLACIN,
Asclepin,
Leptandrin.

If any disease plainly indicates alteratives, it certainly is secondary syphilis, for which we usually give the following combination, and for the reasons which we shall presently mention:

PHYTOLACIN,
Asclepin,
Leptandrin,
Sanguinarin.

In secondary syphilis, we see ulcers in the throat, bubo in the groin, or else a general enlargement of the glands, copper-colored blotches on the skin, pains in the bones, nodes, syphilitic rheumatism, dryness and even huskiness of the skin; and not unfrequently a dead, hardish, rather horny substance covers the cuticle, which appears cracked and altogether abnormal.

Every one will at once see that alteratives, to tone up the system, and stimulate the emunctories to vigorous action, are plainly indicated. We find such an agent in Phytolacin. The liver is torpid, and often much diseased, in this complaint; hence the blotches on the skin. Then the plain indication is an agent or agents which act specially upon the liver, and arouse it to a vigorous exertion to perform its functions; hence we give Leptandrin and Sanguinarin. The whole cutaneous system is extensively diseased, and every one must see that the indication is to stimulate the cutaneous emunctories, and promote diaphoresis. For this purpose, we depend on the Asclepin and Sanguinarin. As a whole, the system requires slow but sure tonics, and such as will soothe the constitutional irritation. We think the above articles, thus combined in proper proportions, are capable of doing this. To render the formula more sure and speedy, we often add Stillingin and a small portion of Hydrastin.

The Asclepin should be given in sufficient quantities to insure its proper and special influence on the cutaneous functions; for in using alteratives of any kind, we must remember that every attention must be paid to the skin, or if we wait for the skin to be affected by the mere influence of the alterative medicines, it will require vastly more time to effect a cure. The cutaneous

functions are deranged, in consequence of the abnormal condition of the internal organs—the entire glandular system—and whatever removes that abnormal condition, will, of course, cure the diseased skin; but if we wish a speedy cure of any disease, we must not only endeavor to remove the primary cause of the disease, but to restore, by stimulating to vigorous action, those organs or systems of organs which are sympathetically involved.

In treating homotonostic fevers, we can make no more appropriate prescription than the one which shall contain the last formula, and also the Gelsemin, thus:

PHYTOLACIN,
Asclepin,
Leptandrin,
Gelsemin,
Sanguinarin.

The same combination might also be very appropriately used in the treatment of typhus ictorodes, or yellow fever. The Podophyllin might be added to the above, with much advantage. When we regard yellow fever as merely a vastly aggravated and malignant form of bilious remittent fever, we shall see the indications for the above medicines. When the fever has been somewhat checked, we may leave out the Podophyllin, and introduce in its place the Hydrastine.

For removing placenta febrilis, we know of no better combination than the following:

PHYTOLACIN,
Hydrastine,
Leptandrin;

and the same formula, with the addition of Xanthoxylin, would be most excellent in the treatment of anchylosis, and especially that form which depends on a syphilitic taint. In nocturnal emissions, where an antiaphodisiac remedy is needed, we know of no medicinal substance, for internal administration, so well calculated to arrest the disorder, if we except mechanical means, as the following powder:

PHYTOLACIN,
Camphor,
Morphine,

in small quantities, taken regularly on going to bed. For guarding the system against a cancroid cachexy, the Phytolacin combined with Asclepin and Hydrastine, is a good agent, although we think the system should be subjected to a thorough course of alterative treatment, to insure an escape from the development of cancerous disease, which is apt to occur with females, about the period of the change of life. For the removal of all manner of exanthematous disease, we may rely upon the following union of agents, when given in proper doses:

PHYTOLACIN,
Asclepin,
Euonymin,
Myricin.

If this does not succeed, we may dispense with the two last articles in the above formula, and supply their places by the Senecin and Sanguinarin. Of course, we should use such external applications as we thought were indicated by the particular form of the disease. Perhaps the following will as generally be found useful as any other one external application:

Ol. Erigeron,
Creosote,
Alcohol.

When the above has been thoroughly dissolved in alcohol, it may then be diluted with water to a proper strength for application. But on no system of organs does Phytolacin operate with such a marked affinity as on the glandular system. It is by its influence on these bodies, together with its tonic virtues, that we are enabled to obtain from it such beneficial results.

Scrophula is a disease in which the glands are greatly involved, and hence, in its treatment the Phytolacin, having much power over them, has been found a most valuable remedy. The same condition of the glands which developes scrophula, may also develop mesenteric disease, or phthisis, and hence, in proper combination we regard the Phytolacin as being specially indicated. We do not believe this agent or any other will completely cure an advanced stage of consumption, but before the disease has made extensive ravages, we think it may almost

always be relieved, provided we can control the habits and general conduct of our patients. In prescribing, with the intention of removing the phthisical cachexy, we have found the following an excellent formula:

PHYTOLACIN,
Asclepin,
Hydrastin,
Leptandrin,
Rhusin.

If this be long continued, and our patient be made to take sufficient exercise in the open air—to keep the mind free from care, and the diet be sufficiently nourishing, we shall soon see a marked improvement in the health of our patient. Those causes which developed the cachexy, must, however, be entirely avoided, or all the medicines which would be given under any circumstances, can do no more, at best, than merely to prolong life, if they do even that much.

Phytolacin has also been found exceedingly beneficial in the treatment of chronic rheumatism, no matter what may have caused the disease. It should be combined with both a nervine and a positive tonic when thus employed, for example:

PHYTOLACIN,
Cornin,
Cypripedin,
Stillingin.

If the reader will consult page 90, where we speak particularly of alteratives or eutropics, he will see at once, the general applicability of any agent of the class. We shall treat, as we already have, of other alteratives, but it is doubtful if we shall treat of one that is more worthy of a trial, in practice, than the Phytolacin. As an alterative, the dose of Phytolacin is one grain three times a day; but when the case is an old and malignant one, we may safely administer two grains at a dose. By noticing the formulas in which it occurs, the reader will at once see how extensive an application it may be made to have.

SCUTELLARIN.

SCUTELLARIN is the concentrated resinoid principle of Scutellaria lateriflora (Lamiaceæ), known also by the common names of Scull-cap, Mad-dog weed and Hood wort. It is found in all parts of the United States. The Indians, it is said, were well acquainted with this plant and its virtues, and from them the whites learned enough of its nature to experiment with it. It has long been used in country practice, and has attained a high reputation as a valuable nervine, &c. Within the past twelve or fifteen years its virtues have been repeatedly admitted by physicians. Its active principle, Scutellarin, has only recently been obtained, but it has rapidly risen into favor with all who have used it.

Scutellarin is a light-greyish, brown-colored powder, rather bordering on to a greenish-shade. It has a feeble, slightly aromatic odor, and a somewhat earthy, not unpleasant taste. It is decidedly a nervine, if a medicine which will quiet nervous irritation deserves that name. It is at the same time a tonic, and may be employed wherever a nervine or neuropathic medicine is indicated. In treating of this class of remedies, various writers speak of certain agents which they term anti-neuropathic, and so far as we comprehend them, mean agents which are capable of removing neuropathic or diseased conditions of the nerves. We use the term neuropathic to express an agent capable of exerting a special sanative influence over the nerves. Anti-neuropathic, according to our acceptation of the term, would mean an agent which was capable of counteracting the influence

of a nervine, or neuropathic, and we choose this shorter word, not because neuropathic conveys any other idea than a diseased condition of the nerves, but because it refers, when treating of remedial agents, to agents capable of affecting the nerves prominently, and especially of quieting them when greatly irritated, and of allaying the excitation consequent thereon.

Scutellarin may be used wherever nervines or narcotics are indicated. It will often succeed when similar agents have entirely failed, and especially in those idiosyncratic cases in which opium or its preparations cannot be tolerated. Some agents which prominently exert their influence on the nerves, stimulate, as Strychnine, while others paralyse or relax, as Hydrocyanic Acid. Scutellarin belongs to this latter class of agents. It has been advantageously used in chorea, thus combined:

SCUTELLARIN,
Cypripedin,
Xanthoxylin,
Myricin,
Asclepin.

If the disease is chronic, it will be well to displace the Myricin by Leptandrin, and see to it, that the bowels are kept in a soluble condition. In very severe cases, we have sometimes made the following prescription with advantage:

SCUTELLARIN,
Strychnine,
Xanthoxylin.

The same formula which will permanently cure chorea, will also, generally greatly benefit convulsions, and hence the Scutellarin is often given in the treatment of convulsions. We have already given numerous formulas in which the Scutellarin seems to be a collateral agent, but it may not be out of place, to again remind the reader that this is a most excellent agent in the treatment of neuralgia. We have already given formulas for using this agent in treating neuralgia, chorea, &c., on page 130, which we still consider very reliable; but if we desire to make the Scutellarin a leading remedy in treating neuralgia, we may thus combine it:

SCUTELLARIN,
Gelsemin,
Cypripedin,
Xanthoxylin.

It will be readily perceived, that in combining together remedies, where there are so many of each class, one can make up many formulas which, though embracing in each, agents different from others, the medical properties of the combinations may not materially differ. We shall treat more particularly of this, however, further on.

When the system has long been kept under the influence of stimulants or stimulating narcotics, and they are then suddenly withdrawn, the whole nervous system is immediately unbalanced, and there supervenes a restless state, both of the physical and mental functions, which is termed delirium tremens. There is almost a total inability to sleep, and a general nervous tremor occurring in paroxysms. There is great watchfulness, headache, anorexia, &c. The indications in this disease are to equalize the nervous system, and thus restore its proper tone. For this purpose there have been recommended many plans of treatment, but we have found nothing to act so satisfactorily as:

SCUTELLARIN,
Cypripedin,
Caulophyllin,

in a glass of London porter, every two hours until the patient is calmed down, when everything may be suspended except:

SCUTELLARIN,
Hydrastine.

Delirium tremens is a most horrid disease, in any form, and we are often called to treat it promptly, or else see our patient rapidly approach the state of mania. When the case is very obstinate, and the patient is beyond the reach of the Scutellarin and Cypripedin, we may give:

SCUTELLARIN,
Gelsemin,

which will soon calm the most turbulent, when we may administer, with strong hopes of doing good:

SCUTELLARIN,
Cypripedin,
Xanthoxylin,
Helonin,
Hydrastin,
Podophyllin.

If the case manifests a tendency to sink, we may substitute Capsicin instead of Helonin. But stimulants cannot, as such, cure this fearful malady, and we must rely on neuropathics and proper tonics. There are many forms of disease, when it is almost impossible to procure sleep for the patient, and hence, the fearful extent to which Morphine has been given in the restless stages of typhoid fever. Scutellarin is a positive and reliable hypnotic, and will often succeed when Morphine, in rational doses has entirely failed. In hysteria and anæmic conditions of females, the Scutellarin has been used with the greatest advantage. It has, also, been strongly recommended for the cure of hydrophobia, but, alone, we do not believe in its efficacy in this disease. Had we to make a prescription for the cure of this complaint, we should likely not prescribe, as the most certain remedy, any of these concentrated remedies; but if we were called soon after the person had been bitten by a rabid animal, we should have much confidence in the following combination of agents:

Capsicin,
Xanthoxylin,
Cypripedin,
Myricin,
Asclepin,
Irisin.

We should endeavor to keep the system well stimulated for many weeks, or even months, for we are well persuaded, that some months may pass before the patient can consider himself out of danger. We might use the Scutellarin, but we should do so only to modify other agents. It is clear that the emunctories ought to be well stimulated, and the blood kept in the best condition for repelling morbific virus. The dose of the

Scutellarin is TWO grains, under ordinary circumstances, for an adult, though four grains have been given with advantage, and in rare instances as much as five. This agent might be well substituted for opiates, in those irritable conditions incident to childhood, and which require such cautious medication to restore the child to a state of health.

JALAPIN.

JALAPIN is the concentrated resinoidous active principle of Ipomæ jalapa (convolvulaceæ,) known commonly as Jalap. By botanists, the plant is known mostly as Ipomæ purga. The reader will no doubt notice that the active resinoid principle has been given the specific, and not the generic name, as is commonly done. It is likely this would also have been the case with this active principle, had the name Convolvulus jalapa proposed by Linnæus, been generally adopted. In order to be correct, and to convey correct impressions, in regard to the plant and its virtues, we may be allowed to treat somewhat of the general history of the tribe. There are three genera of plants belonging to the natural order, convolvulaceæ, which closely resemble each other, and to all of which the name jalap is applied. These three genera are, Batatas, Ipomæ, and Convolvulus, and the individuals of the genera are, Batatas jalapa, Ipomæ jalapa, and Convolvulus jalapa, or Convolvulus panduratus. These plants possess, in common, marked purgative properties, and hence are often, and, indeed, almost always associated together in the mind of the physician. Botanically, the three genera thus differ:

BATATAS JALAPA.—Stem: trailing or climbing; Leaves:

cordate, entire, sinuate or lobate, pubescent beneath, on long petioles.

IPOMÆ JALAPA.—Stem: several, roundish, herbaceous, of a reddish brown color, much twisted, smooth; Leaves: cordate, accuminate, entire, deeply sinuated at the base, smooth, under side prominently veined, petioles often long as the leaf.

CANVOLVULUS JALAPA.—Stem: twining, subpubescent, roundish, purplish; Leaves: cordate or panduriform, accuminate, lobes rounded, broad, alterate petiolate, margin entire, or undulate.

BAT. JAL.—Peduncles: pilose, 1–3 flowered; Sepals: ovate rounded, pubescent; Seeds: dark brown, covered with a long, silky down.

IPO. JAL.—Peduncles: length of petiole, 2 flowered; Sepals: obtuse; Seeds: unknown.

CONV. JAL.—Peduncles: longer than the petioles, 1–5 flowered; Sepals: entire; Seeds: 4.

BAT. JAL.—Corolla: large, limb, obscurely, 10 lobed, externally pubescent, white, tinged with purple; Capsule: 2–3 celled; Filaments: long as the corolla, villous and purple at base.

IPO. JAL.—Corolla: salver-shaped, with cylindrical tube, of a lilac purple color; Capsule: unknown; Filaments: long and purplish.

CONV. JAL.—Corolla: tubular, companulate, large, white, with tube purplish red; Capsule: oblong, 2 celled; Filaments: shorter than corolla, white, purplish tinged at base.

BAT. JAL.—Root: perenniel, somewhat fusiform, very large, often weighing fifty pounds, white, farinaceous.

BAT. JAL.—Root: pear-shaped, perenniel, tuler sending out long radicles.

CONV. JAL.—Root: very large, cylindrical or fusiform, sometimes four or five inches in diameter, from 2 to 4 feet in length, yellowish outside, whitish and milky inside, attenuated above.

It will thus be seen that these plants bear a close resemblance, botanically considered. Their medical properties are equally as similar. The B. jalapa is a native of Mexico and the southern portion of the United States. It was long thought that

this plant furnished the jalap of commerce, but it is now known that such is not the case. Some writers contend that the B. jalapa is entirely destitute of purgative properties, but a paper in a celebrated work on the medical plants of the West Indies, shows that it contains a beautiful white resin, which the writer asserts to be too powerful for use. By examining our remarks from page 36 to page 52, the reader will be enabled to explain, on satisfactory grounds, these conflicting statements. The inert B. jalapa may and must have been grown in some dark, damp wood, and too far north to have concentrated its secretions; while, on the other hand, the active medicinal principle was greatly concentrated in the West Indian samples used in obtaining a resin too powerful for use. We know, from experience, that the B. jalapa grown in Texas, or West Florida, is a safe but sure purgative, neither inert, nor too acrid for use.

The Convolvulus jalapa, or C. pandaratus, is indigenous to all parts of the United States, but is really valuable as a medicine, only as grown in the Southern states. While in the North it is a mild laxative, in the South it is a brisk cathartic, and is, as such, extensively employed, both by physicians, and in domestic practice. The Seminole Indians used it much in combination with Podophyllum peltatum, and esteemed it as a valuable remedy. It is said to enter largely into the patent purgative pills of a large establishment in this city (New York.) How true this is, we cannot say, but trust it may be true, since worse agents might be employed.

The Ipomea jalapa is a native of the highlands of Mexico, where it is gathered and sold to the Jalapa merchants, who thence ship it to other countries, via Vera Cruz. It is from the circumstance of its being sold by the Jalapa merchants, that it gets its specific name. The resin of the I. jalapa has long been known to chemists, by whom it has been analysed and described; it consists of a resin and an acid. The resin has long been called Jalapin, and the acid, Jalapic acid—hence the name applied to the agent under consideration, by the American Chemical Institute. It is very likely that all varieties of jalap contain a resin, which is in every way as efficient in procuring

catharsis, as the one from which Jalapin is now obtained. We sincerely wish our American chemists would closely investigate the value of our indigenous plants, for we believe in the sanctity of supporting home manufactures, and American enterprise, over foreign influences and capital. A nation, to be free, must have within itself all the means of subsistence, of luxury, and the elements of wealth. As a nation ceases to buy, so is it richer and more independent and united. A free interchange of commodities, may be advantageous to the grower; but when a nation grows an article, *exports* it to another country, and then *imports* it manufactured, it not only loses the amount of the profits accruing to the foreign merchant, but sustains foreign manual labor, over the manual labor of its own citizens, and gives an impulse to foreign enterprise, which it denies to its own citizens. It is not our place to argue this question in this work, but the principle is true, and physicians and druggists ought to discountenance any such preference for foreign drugs, when we have those in our own country, which are in every way as reliable, and may be procured quite as conveniently.

Jalapin, the resinoid active principle of the I. jalapa, as prepared at the American Chemical Institute, is a very light drab-colored powder, with a slightly aromatic odor, which becomes quite sensible when the powder is burned. It has a resinous, not very unpleasant taste, by no means indicative of its medicinal activity. The Jalapin possesses the properties of the root, in a concentrated form, with the additional advantage of enabling the physician to give the medicine in definite quantities; a circumstance to which we have before alluded. While the I. Jalapa, has on all sides been admitted to be a sure and valuable carthartic, we think the same opinion must soon pertain relative to the active principle, Jalapin. It has been extensively used, and so far as we are aware, not a voice has been raised to depreciate it. It acts more kindly than the crude extract, or the powdered root, in consequence of its containing less Jalapic acid, the abundance of which, in the crude article, or the extract has made the Jalap too apt to nauseate the patient,

to be so extensively used as some other cathartics which really are, perhaps, inferior to the powdered Jalap.

Jalapin is an active cathartic, and like other resinoids of its class, somewhat disposed to cause griping pains in its operation. This may be readily obviated by giving it in combination with other agents, thus:

JALAPIN,
Caulophyllin,
Cypripedin.

It produces copious watery discharges, and hence, it is much employed in the treatment of dropsies. Though Ascites has been often pronounced incurable, we are of the opinion, judging from observation, that the opinion is false, and arose from ignorance of its pathology, and the power of proper remedial agents in restoring pathological to physiological conditioned organs. It evidently depends on some obstruction, and it is our first duty to learn what and where that obstruction is situated; knowing this, we shall find much less difficulty in removing the real cause of the disease than we had at first expected. This obstruction is at first nervous, and it is only by revulsion that we can hope to effect a cure. Carthartics are good revulsives, besides facilitating greatly the exosmose of the abnormal collection of water. We might make any one of a number of prescriptions for the cure of the disease, but, perhaps, none that would be more efficient than the following:

JALAPIN,
Podophyllin,
Asclepin,
Cypripedin,
Irisin.

We should also use every means to promote free diaphoresis, in addition to the power of the Asclepin in the formula, over the cutaneous system. In the treatment of anasarca, we have also found the above a good formula. In treating dropsies, we should bear in mind, that they may be caused in many ways—e. g.: they may arise from engorgement or obstruction of the

liver—of the spleen, of the general system of exhalants, &c. In anasarca we are apt to find the following condition of the system: Eyes, dull, heavy, and often slightly inflamed. Tongue, whitish, or even furred; tenderness over the region of the liver; the skin dry; a general atony of the exhalants; urine scanty; bowels generally costive, &c. Now, then, any plan of treatment which shall reduce the liver to a state of health; promote free cutaneous action; give tone to the exhalants; stimulate the glandular system; rouse the kidneys to a due performance of their spinal function, and regulate the nervous system, will very evidently either cure or greatly benefit the disease. We should very likely not attempt to combat all these indications at a time, but should make up such a formula, as, in our judgment, would not increase the difficulty in any particular. We should endeavor to correct the liver by the use, in union of:

JALAPIN,
Asclepin,
Podophyllin,
Apocynin,
Senecin,

—a formula we have already given on page 109. After pretty thoroughly cleaning out the system with the above, we should then administer, for a few days, in small proportions, the formula found on page 149:

Podophyllin,
Asclepin,
Eupatorin,
Capsicin,
Sanguinarin.

With this we should expect to prepare the liver for the action of Leptandrin and Sanguinarin, to which we might now add a small portion of Xanthoxylin. This we would continue until we were satisfied the torpor, or engorgement of the liver had been removed. We should then endeavor to correct the abnormal condition of the skin, for which purpose we should prescribe in union:

Asclepin,
Sanguinarin,
Eupatorin,
Phytolacin,
Senecin.

This we should continue a few days, giving small quantities of each agent, and at the same time sponging the body, and if need be, using the vapor bath occasionally, until we saw the skin beginning to perform its functions properly. We should then give this curious combination of agents, with the greatest hopes of effecting a speedy cure:

JALAPIN,
Leptandrin,
Caulophyllin,
Asclepin,
Phytolacin,
Hydrastine,
Senecin.

This, as many others of the combinations we have indicated, is long and complex, but the agents curiously modify each other, and the medly acts most charmingly. With the above formula we should expect to cause the reabsorption and exhalation of the fluid contained in the cavities, which as soon as accomplished, would leave us free to hold up the wasted powers with tonics, and other proper agents. There are forms of dropsies we should not thus treat, e. g., Hydrocephalus, Ovarian dropsy, Œdema of the lungs, dropsy of the heart, hydrocele, &c., &c.

Jalapin is applicable to all cases where it is desirable to make a powerful impression on the intestinal tract. There are many conditions of the system which indicate the use of more laxative agents. Under such circumstances, we should not use the Jalapin. We have known many persons to be seriously injured, who, in consequence of being subject to a habitual torpor of the intestines, acquired a habit of using patent pills, the chief ingredient of which was Ipomæ Jalapa. The dose of Jalapin for an adult is TWO grains, combined with Caulophyllin, or some other qualifying agent.

STILLINGIN.

STILLINGIN is the concentrated resinoid, active principle of Stillingia sylvatica, (Euphorbiaceæ,) or Queen's delight, or Yaw-root, by both of which common names it is known. Stillingia sylvatica, as an alterative, has no rival, so far as we are informed, in the vegetable kingdom, if, perhaps, we except the Phytolacca decandria. The crude article has made for itself friends far and wide, having given, we believe, the utmost satisfaction when properly employed. Of this there is abundant evidence, not only from our own experience, but in the published accounts which have, from time to time, been written of it. As it is an agent of so much importance, we may briefly refer to the botanical characteristics of the plant, for many practitioners would find themselves amply repaid, by gathering and using the crude article, when unable to procure the active principle of which we shall presently treat.

The Stillingia sylvatica is found throughout the South and West, in light, loose, sandy soils—but it is only in the more genial climate of the Southern states, that it attains its greatest perfection. It grows from twenty to forty inches high, and is conspicuous for the rich green color of its leaves, and the general outline of its shape. A stranger to it seldom passes it without making some inquiry about it. It is a perennial plant, flowering from April till June, according to the latitude in which it grows. The leaves are alternate on the stem; sessile, lanceolate oblong, obtuse, sharply serrulate, tapering at the base, and accompanied with small stipules. The male and female flowers

are on the same plant, but separate and distinct. Stem: herbacious, and filled with a milky juice. The flowers are yellow, and arranged in a spike—the male flowers occupying the upper part of the spike, while the female ones are below them. The male flowers are very short.

The Stillingia was sometimes used by the Southern Indians as an emetic, but as such, in the recent state, it is a harsh and dangerous remedy. We remember having once seen an Indian father give it to a fine lad, for procuring the ejection from the stomach of some poisonous berries which the child had been eating. It produced most alarming results, and required our most unceasing exertions to save the child. The circumstance led us to make some inquiries respecting its use among the Seminoles, of whom the father was a chief. He informed us that it was considered by the Indians a very dangerous remedy, and was given only when it was necessary to cause rapid and thorough vomiting. In this instance, it produced hypercatharsis, as well as long continued emesis. Witnessing this case, satisfied us that the recent root was too acrid for use, unless given with great caution. We afterwards tried it on a man who had been bitten by a snake. Its action was exceedingly harsh, but we think it saved the man, together with the stimulating draughts with which we followed its operation. We have never since used the recent root, and, in all probability, never shall again, unless similarly situated—in a country where medicines must be gathered from the forest. And even then, we should now choose either the Euphorbia Ipecacuanha or the Gillenia trifoliata in preference, if we could procure it. The acridity of the recent root, probably depends on an acid which is dissipated on drying, as the root looses most of that quality in being kept.

As used by the Indians, and at first by the profession, the powdered root was given, if the root was dry; but if it was recent then a decoction was made. The powdered root is a very objectionable form for its administration, as there is a portion of the ligneous matter which not being soluble in the stomach soon gets it in a very irritable condition, and this irritability of the stomach may be extended to the intestinal canal, and the patient

get a chronic diarrhœa, which must be removed by some active cathartic, and the suspension of the Stillingia root. It was thus, however, used for a time by the profession. Then a decoction was tried, which acted much better, and, indeed, quite satisfactorily; but it, too, is objectionable, as it is not convenient to make a decoction every time it has to be given, and it is almost valueless unless given when fresh.

An extract was then tried, but owing to its improper preparations it did not give satisfaction, and was soon abandoned for the simple syrup of Stillingia, which was the most convenient and efficient form used before the Stillingin was obtained. But certain manufacturers, not content with the simple syrup, soon introduced a compound syrup of Stillingin, which, while efficient enough as an alterative, was exceedingly disagreeable to the taste, and taken with great reluctance by those who were compelled to use it. Many attempts were made to prepare a syrup less objectionable to the taste, but it was not effected. The next step was to prepare an essential oil, which, owing to the smallness of the dose, was readily taken, as it could be very effectually disguised, and seemed to possess most of the properties of the root, either in substance, decoction, or syrup. But the oil never acquired much popularity, as, soon after its preparation for the use of the profession the Stillingin was prepared, which at once was the embodiment of all the virtues of the plant, in a concentrated form.

We have, ourselves, used the Stillingin prepared in all these different ways, and while we admit the excellent medical properties of the syrup, we greatly prefer the Stillingin, simply because it is so much more convenient in practice. It has always been an object of the first importance to get the vegetable agents of the materia medica, in the form of powders, but for a long time, an imperfect knowledge of organic chemistry seemed likely to defeat the realization of our hopes. A steady perseverance has, however, enabled the chemist of the American Chemical Institute to crown our wishes with success, and we can now confidently say we have a preparation that seems to be nearly, or quite unobjectionable as a medicine. Those who

have used the Stillingin more than ourselves speak in flattering terms of it, and regard it as one of the best and most reliable alteratives we posses.

Stillingin is a light cinnamon-colored powder, slightly tinged with green. It has the peculiar odor of the plant, which is quite unpleasant. Its taste is less objectionable, though it is by no means destitute of peculiarities, which are common to the plant. It is very disagreeable to powder and bottle, as the particles which float in the air and which are inhaled, produce more or less irritation of the lungs.

We have already indicated the use of the Stillingin in union with numerous agents, and for the treatment of a variety of diseases (see pp. 108, 118, 121, 126, 134, 137, 148, 149, 154, 157, et. seq.) Being an excellent alterative, it will of course, be applicable in many diseases requiring an agent of its class. It may be made a leading article in the treatment of both primary and secondary syphilis; but it is in the constitutional forms of the disease that Stillingin demonstrates its superiority over every other agent in the treatment of syphilis. It possesses, we believe, no antidote to the syphilitic virus; but it exerts that peculiar influence over the system which facilitates the expulsion of the virus from the system, and restores health and vigor to those organs and tissues which are especially affected by the syphilitic poison. It seems to act prominently on the glandular and cutaneous system, as both the glands and skin are much diseased in secondary and tertiary syphilis. In prescribing this agent in the treatment of the constitutional forms of syphilis, we usually give the following:

STILLINGIN,
Phytolacin,
Senecin,
Asclepin,
Hydrastine.

Every case of syphilis will naturally be treated somewhat differently, however, as the indications can seldom be alike, since there is such a variety in the temperaments. While one syphilitic patient is predisposed to inflammatory conditions, another

is equally disposed to an atonic condition. One has much vitality, and would throw off a disease which would be a source of great annoyance in another. It will be borne in mind, by those who use any agent belonging to the class of alteratives, that they are agents which act slowly, and that immediate sanitary results are not to be looked for. We shall as soon obtain them by using the Stillingin and Phytolacin, as with any other agents which we could now mention. There are agents which have been used as very powerful alteratives, and those on which alone the physician could depend, that are not perfectly soluble in the fluids of the body, or which, though capable of very minute divisibility, are collected and deposited in the tissues where they may remain, sources of irritation for many years. Stillingin is not such an agent, and we may rest assured that if with it we do not cure a patient, we shall not injure him, as the system will readily expel its influence as soon as we cease to give the agent.

In the treatment of glandular enlargements, we may use the Stillingin with much propriety, along with tonics and other agents which are capable of equalizing the nervous circulation. There will be much diversity among physicians regarding the combinations which are capable of effecting the cure of glandular disease, but we prefer the following, which has always acted very kindly in our hands:

STILLINGIN,
Phytolacin,
Cypripedin,
Xanthoxylin,
Myricin.

Stillingin may be successfully employed in the treatment of all scorbutic affections, in combination, as mentioned in the formula on page 173. As an alterative, the Stillingin may be used in the treatment of all cutaneous diseases. It will, under such circumstances, act much more satisfactorily if combined with Asclepin and Senecin. The dose of the Stillingin is TWO grains, and for old chronic cases, three or even four. It should be administered three or four times daily. Patients who have used

the comp. syrup of Stillingia, soon get a most perfect distaste to it, and can seldom even think of it without a shudder. The Stillingin is less objectionable, and does not so completely disgust the sense of taste. The Stillingin may be made into a pill or administered with a small portion of preserves.

XANTHOXYLIN.

THIS resinoid is obtained from the Xanthoxylum fraxineum, (Xanthoxylaceæ), which is commonly known as Prickly ash, &c. There has been some confusion in reference to the naming of this plant by botanists, but the PRICKLY ASH is so well known that we need not here notice the causes of the confused naming of the plant by scientific gentlemen. The Xanthoxylum fraxineum is a native of North America, and is found in all parts of the country south of 56° N. L. It is much more abundant, however, East of the Mississippi, than to the West of that stream. It attains its greatest development in the rich hammochs of the Floridas. As a domestic medicine it is much used throughout the country, especially by the negroes, who make a kind of bitters with it, which they drink in the spring of the year. In domestic practice, it is used either in tincture or decoction as a "purifier of the blood." We had our attention first called to its virtues by seeing it used in domestic practice. It was introduced to the profession as early as 1788, but was not used to any extent, we believe, until about 1820, since when, it has gradually gained favor, and is now regarded as a reliable agent, by all classes of practitioners.

Xanthoxylin, the active principle of the Xanthoxylum fraxineum, is a yellowish cream-colored powder, with a slightly bitter, somewhat aromatic and pungent taste, and an odor peculiar to the resins. Xanthoxylin is a stimulating tonic and alterative. It contains the properties of the plant, in a concentrated form, and may be substituted for it in all cases where such an agent is indicated. We have already mentioned it in connection with other agents, in many places of this work (see pp. 99, 102, 105, 121, 127, 130, 131, 132, 137, et. seq.) It stimulates the glandular functions, raises the pulse, determines the insensible perspiration to the skin, gives tone to the general organism, and combines most beautifully with other agents, where such an agent is admissible. It is, perhaps, one of the most permanent stimulants we possess. In paralysis of the tongue and mouth, it has been used with considerable success. In chronic rheumatism, the Xanthoxylin, thus combined, is one of the best agents we have:

XANTHOXYLIN,
Hydrastin,
Cypripedin,
Stillingin,
Asclepin.

If the rheumatism depended on a syphilitic taint, we might thus give it:

Scutellarin,
Caulophyllin,
XANTHOXYLIN,
Phytolacin,
Stillingin,
Asclepin,

or else use the first formula on page 118. Either of these two last, however, would act like a charm. As an adjuvant to other agents intended to rouse the liver to action, the Xanthoxylin may be safely employed. It is a valuable agent in the treatment of atonic conditions of the stomach and intestines, and hence is often prescribed in the treatment of dyspepsia, chronic constipation, &c. In dysentery, it is advantageously used in

union with Caulophyllin and Leptandrin. A friend of ours is in the habit of using it in combination with Stillingin and Macrotin, in the treatment of rheumatism; and he informs us that its action is, when thus combined, highly satisfactory. If we admitted the existence of such a class of agents, we should say the Xanthoxylin was a carminative, of the best kind; as we do not admit such a class of agents, however, we shall say it is a reliable aromatic and stimulating tonic, well adapted to the removal of flatulency and spasms of the stomach. The Xanthoxylum fraxineum was, we are informed, used very extensively and with wonderful results, during the cholera epidemic at Cincinnati, in 1849. The form used, we believe, was the tincture, and it is said the patients compared its action to mild shocks, or, perhaps, a steady, weak current of galvanic electricity. It is also stated that it was the tincture of the *berries* which produced the above results, while that of the bark was less useful and safe.

Having no experience with the tincture, in the above disease, we must rely on the statements of others; but we have often used the tincture in cholera morbus, as well as the Xanthoxylin, and we feel warranted in saying that it is a valuable agent in the treatment of cholerine disease in general. As the Xanthoxylin contains the medicinal principles of the plant, in a concentrated form, it must be evident that it would be even more valuable than the tincture, in the treatment of those prostrating bowel complaints, which have become so rife within the last few years. We have already given a formula, on page 122, which we consider very valuable in promoting reaction in cholera; but it certainly is only *one* of a vast number of prescriptions which have proven beneficial in the treatment of cholerine disease. It is evident, from the nature of the agents which compose it, that the following combination would prove serviceable, where there was great prostration, and a general atony of the nervous system:

XANTHOXYLIN,
Strychnine,
Capsicin,

Geranin,
Viburin,
Cypripedin.

In cases of collapse, we might be warranted in giving proper quantities of the above, in brandy, or some other spirituous liquor. Having been, at all times, predisposed to cholerine disease ourselves, we have had some experience as to the effects of medicines, and combinations of medicines, on the system; and from our knowledge of the above formula, we should have no hesitancy in using it when the case was severe. We are no advocate for the indiscriminate use of alcoholic liquors, in the treatment of disease, but there are forms of disease, and particular stages, when it may be given with the greatest advantage.

The dose of Xanthoxylin is ONE grain, which may often, when the indications for it are very positive, be increased to three grains. The Xanthoxylin has been used so extensively, and has given such general satisfaction, that we think it may now be regarded as one of the fixed articles of the positive materia medica. We have not attempted to indicate all the diseases in which the Xanthoxylin may be used—it being our object to merely say enough of each agent to convey a correct impression of its worth. Every well informed physician will learn its indications, and how to combine it.

VERATRIN.

VERATRIN is the concentrated resinoidous principle of Veratrum viride (Melanthaceæ.) The Veratrum viride is also known as American hellebore, Swamp hellebore, Indian poke, Itch weed, Crowfoot, &c. As this is an important plant, and not very well known, we shall give its botanical characteristics. The stem is annual, round, solid, striated, pubescent, and from three to six feet high; being, throughout the greater part of its length closely invested with the sheathing bases of the leaves. The leaves are alternate, and gradually increase in size as they descend; the lower ones are from six to twelve inches long, oval, accuminate, pubescent, strongly ribbed and plaited, the lower part of their edges meeting round the stem. The upper leaves are gradually narrower; the uppermost or bracts, linear-lanceolate. The flowers are numerous, yellowish green, and arranged in compound racemes, axillay from the upper leaves and teminal. Each flower is accompanied with a boat-shaped, accuminate, downy bract, much longer than its pedicel. Peduncles: roundish, downy. The perianth is divided into six oval, acute nerved segments, of which the alternate ones are the longest, and all contracted at the base, into a sort of claw, with a thickened, cartilaginous edge. The Stamens are six, with recurved filaments, and roundish. Anthers, two lobed. Ovaries, three, cohering, with acute recurved styles as long as the stems. The fruit consists of three capsules, united together, and separating at top, and dehiscing on the inner side. Seeds: flat, winged, imbricated.

The Veratrum viride is indigenous from Canada to Florida, growing in swamps and wet places, or on the banks of branches and creeks, and flowering from May till July. The root, the

part used in medicine, consists of a thick, abrupt top, and a thick, fleshy base, from which numerous rootlets shoot off in all directions. It should be taken to the pharmaceutist, soon after gathering it, if it is to be used in procuring the Veratrin, since it is much impaired by age. There is much similarity in the virtues of the V. album and the V. viride, according to the older works, but recent writers and physicians disagree with such statements. We, ourselves, think there is a vast deal of difference, and that the advantage is on the side of the V. viride. The virtues, and want of general information in regard to this agent, warrant us, we think, in extending our remarks on it beyond the limits we have assigned ourselves for each agent.

Owing to the powerful character of the Veratrum viride, it has long been an object to prepare an active principle—or get the medical properties of the plant in a concentrated form. As all the specimens found in drug shops were not of the same relative strength, it was plain that the physician could not positively know how much of the medicine, or rather, how much of the active principle, he was administering; and as the agent was too powerful to be recklessly prescribed, all who used it seemed, so far as we can learn, to look forward with much interest to the numerous experiments which had for their object the obtaining of a concentrated form of the Veratrum viride, which, in consequence of its uniform strength, should enable practitioners to know precisely how much medicine they were giving. These experiments were unsuccessful, until a few months since, when the chemists of the American Chemical Institute succeeded in getting out the Veratrin—which is a resinoid, powdered, and, from its mode of preparation, necessarily of uniform strength. No agent has been lately discovered which is calculated to promote positive medication more than this.

The Veratrin is a light snuff-colored, dry powder, with very little odor or taste. It possesses the properties of the plant in an eminently concentrated form. It is proper to state, in this connection, that three substances have been prepared from the V. album, and V. sabadilla, which have been termed respectively, Veratria, Sabadilla, and Veratrin. These substances, ex-

cept the Veratria, are not used in medicine, and owing to their impure quality, and necessary high prices, not likely to be used to any considerable extent. The Veratrin, heretofore said to have been procured, and which has been noticed by most recent writers, is an apothemean substance, (see p. 46,) a residuum of the true Sabadillin. *Let it be borne in mind, that we speak only of proper Veratrin—obtained only from the Veratrum viride.* The Veratria heretofore obtained, and used to some extent as a medicine, is VERATRINE, an alkaloid, and essentially different from the resinoid Veratrin, of which we are to treat. We should notice the Veratrine also in this connection, had it not been so extensively treated of by other writers. Some of its medical properties are not very dissimilar to those of the Veratrin. But, while it has long been known, and used by the profession, there has been but little harmony in the statements of those who have used, and written on it. Our own knowledge of its therapeutic effects, does not warrant us in deciding who is right or who is wrong, in the published accounts which we have seen.

It is, however, in reference to the Veratrin, prepared from the Veratrum viride that we would now speak, and while we shall treat fully of this article, saying many good things of it, we trust we are prepared to treat of it only as its merits demand —frankly disputing whatever has been claimed for it, not founded in fact. Those who discover active principles, or first call the attention of the profession to medicines, are too apt to see only the fair side of the question; but situated as we are, entirely aloof from those who are interested in the reputation of this drug, and laboring under a full consciousness of our duty to our fellows, we hope to convey to our readers a correct impression of the Veratrin and its virtues.

The Veratrin is a sedative, and when given in overdoses is powerfully emetic. Its action is exerted primarily on the nervous system, and by its impressions on it, most effectually controlling the heart's action—and has been called by some, in reference to its superior power of controlling the circulation, an arterial sedative. It is, of course, to be ranked also among the

sedative expectorants, as are most other sedatives; but the Veratrin exercises a peculiar and well marked influence over the function of expectoration. As an expectorant, perhaps it has no equal in the materia medica—we shall refer to it as such again. It is also a reliable diaphoretic, promoting free perspiration. even in cases where the Asclepin had failed. It is also a most powerful and reliable alterative. It possesses some narcotic properties, which may be qualified by Ol. Erigeron. This quality is denied by some very respectable writers, but we must still think it somewhat narcotic. As a nervine, it has been employed in various diseases requiring the exhibition of such agents. When used as an emetic, its operation is prompt and satisfactory, provided the stomach is not in an irritable condition. In small doses it is a gentle tonic. It should never be given with either Quinine or Hydrastine.

We have already treated particularly of typhoid fever, but as the medicine acts so exceedingly well in the high stages of this disease we must refer to it again. When we are treating a case in which the pulse is often up to 130 or 150 in a minute, very small and rather soft, as we often see, with hurried and difficult breathing, much coughing and but little expectoration, we may administer the Veratrin with perfect confidence. It will reduce the frequency of the pulse often as low as fifty beats in a minute. The breathing will become easy, the skin will moisten, the coughing become less frequent, and the expectoration much freer, and the disease be broken up. Keep the patient for a while on reduced doses, and he will soon be well.

In pneumonia, when the condition of the patient is more inflammatory, the Veratrin relieves the pain, subdues the inflammatory action, promotes expectoration and diaphoresis, reduces the frequency of the pulse, and induces a speedy cure, as has been proved over and again in daily practice. When prescribing Veratrin, we should never neglect to ascertain whether or not the stomach is in an irritable condition, for should it be only slightly irritated our medicine is almost sure to act harshly. We do not believe it necessary to give the Veratrin until nausea or vomiting has been induced, as has been recommended in

using the tincture of V. viride. When given in proper doses, the Veratrin will not occasion emesis if there is no gastric irritation, and we should never neglect to learn what the condition of the stomach is before we administer this powerful agent.

The best and most correct idea of the worth of this peculiar agent is to be obtained by inquiring into the phenomena of inflammation, and the power of this remedy in controlling it. If we shall learn to divest human tissues of inflammation, we shall have but little difficulty in controlling disease in general. We must remember that there are various forms of inflammation, and that it may exist without presenting us at all times with the phenomena of increased heat, redness, pain and swelling. It is not unusual to find well marked inflammatory action, of a low grade, almost, or quite unattended with pain, but there will be manifested more or less tenderness on pressure. The redness of inflammation is, perhaps, the most constant symptom of this diseased action. It varies from a slight flush to a deep crimson, according to the degree of inflammation, and the part in which it occurs. But even redness is not always present, for in the example of white swelling, while we have the increased swelling, heat and pain, we see but little redness. The increased temperature, which seems to depend on the increased capilary circulation, and an increased amount of vitality, centered on the surface of the inflamed part, in consequence of the increased action of the vitalizing fluid—the blood. Yet the cases are not few in which we see a high grade of inflammation, with very little increase of heat. Pain is yet more variable than either of the other ordinary symptoms, which are generally referred to by authors, as particularly characterizing the disease. The pain may be of any or all kinds during an inflammatory attack. It is often obscure and dull, at other times it is exceedingly severe and sharp, or it may be of a burning character. It is not the parts which are more sensitive in health that are so in disease; nor is it always felt where the seat of disease is. This latter fact must be borne in mind or we may be led into grievous mistakes. The swelling often amounts to no more than a mere thickening of a mucous membrane, or else it may be very excessive and lead

us to suppose that there is more disease than there really is. In some structures of the body, as the mucous membranes and alimentary canal, we see no swelling, while the inflammation may be very well marked and even intense. It will thus be seen that we must study well the phenomena of inflammation if we would understand the nature of a therapeutic agent capable of controlling it.

There are other important considerations which we must understand, and in giving them, our only object is to prepare the mind of the reader for our conclusion in reference to the action of the Veratrin as an agent capable of controlling inflammatory action. And we find our excuse for the particular pains we are at, by asking the reader to consider how all-important it is to possess an agent which shall enable us to control some of the most formidable phases of disease, which evidently depend on the degree of inflammation present.

During the forming stages of true inflammation we see increased natural secretions of the part; but when the inflammation has been fully established, and has become active, there is an almost total paralysis of the secretory function of the part, which is indicated by dryness of the skin, or equally unmistakeable evidences of that fact, no matter what organ or tissue is involved. When the inflammation has continued for some time we see again, as in the forming stages, an increase of the secretory function, as we see illustrated in an advanced inflammation of the bronchial tubes.

Inflammation depends on causes of two kinds—local and general. Local irritation produces, when long continued, local inflammation, which may become general provided the system be favorable to the development of inflammatory action. When a local irritation exists, and has begun to affect the general system, we may almost entirely arrest it by giving Veratrin, to act on the general system, restraining the velocity of the circulating fluid, and at the same time making such applications as are calculated to remove the local irritation. Where general inflammation comes on slowly, we may not notice it until we see some one organ or viscus display all the symptoms of local inflammation;

and we naturally enough suppose the general inflammation has been caused by the local inflammation, when such is by no means the case. Under such circumstances, we shall most commonly find that there was a pre-disposition to inflammation of some particular viscus, and that it had been developed under the excitation of the general inflammation. Measures intended to remove such local inflammation ought to be brought to bear on the great circulating system—Veratrin will control such local inflammation, by its power over the heart and arteries. As to the results of inflammation, we need not occupy space in noticing them—they may terminate in disorganization and death. The great question is, how can we control this inflammation which is known to be so all-important in disease? When it is present, it is always the physician's first care to remove it, and in all times physicians have earnestly sought the best means of treating it. Some have depended on certain medicines, some on a general antiphlogistic course, and others on venesection. The object with every physician is to subdue the inflammation, and if it can be done with medicinal agents, it is certainly more convenient to do so. We do not only *believe* that inflammations may be generally reduced with Veratrin, but we *know* from experience that it is capable of controlling the heart's action, and consequently, by controlling the force of the circulating medium —the blood—we can do as much with Veratrin in the treatment of disease, as we can with the strictest antiphlogistic regimen and the lancet combined. We do not state this upon a theoretical premise, but we know it to a certainty, because our knowledge is based on experience—by the bedside of those who were laboring under inflammatory disease. We have seen the Veratrin produce diaphoresis, relieve cough, reduce the pulse, and in short, do more in a given short time than any agent we have ever used. It is true we have used agents with which we could as surely reduce the pulse, and in as quick a time, but the effects of such medicines were always temporary, and the good results as quickly supplanted by increased vital action, as had been its diminution.

One cannot feel otherwise than surprised at the remarkable

changes he witnesses when watching the effects of Veratrin when it has been administered in proper doses. And he will thus feel the force of all we have said in reference to the use of this agent. The dose of the Veratrin is ONE-EIGHTH of a grain. But, owing to the character of this medicine, we must be exceedingly cautious. We must see to it, that there is no gastric irritation, or we shall find that only small doses are required to produce hyper-emesis. But vomiting is not necessarily a dangerous symptom in the use of Veratrin, for many, in using even the crude article, or the tincture, never think it proper to stop before violent emesis has been induced. We cannot, however, see a particle of good which is to result from this production of emesis; and hence we endeavor always to suspend the Veratrin as soon as slight nausea, or a reduction of the pulse, indicates its influence over the system. We think it best to commence with ONE-SIXTEENTH of a grain, and increase it to an EIGHTH, or in some instances to one-fourth of a grain. In saying that the dose is one-eighth of a grain, we, of course, mean that it is a medium dose for adults with an evenly balanced temperament. It will be well to remember our remarks on the modifications resulting from the temperaments, on pages 28–9. We must also be careful how we combine this agent with others which irritate the mucous membranes. To such as cannot procure the Veratrin, we say, use the tincture, which any one can make. Let the reader remember that this agent, Veratrin, *will* control inflammation, and he will at once see how very valuable it must be to the practitioner—he will comprehend, at once, its extended application, and he can be always positive, not only as to the amount of the medicine used, but as regards the results which will follow its administration. As to the formulas we shall make in using this agent, we would say, we may make any number, provided we understand the exact nature of the agents which enter into the combination, and the case is so severe as to require other remedies. It would, perhaps, be well, always to open the bowels with Olive oil, before using it, and then give it alone, or else thus:

VERATRIN,
Ol. Erigeron,

for the reduction of general inflammation. But where there was obstinate cutaneous obstructions, along with a dry, hacking cough, we might thus combine it:

VERATRIN,
Phytolacin,
Asclepin,
Rumin.

But as the Veratrin will fill the indications for all these agents, we must give them in very small quantities; and, perhaps, the best way would be to give the Veratrin alone, first, and then if that failed, we might add the other agents.

CORNIN.

CORNIN is obtained from the bark of the root of Cornus florida (Cornaceæ,) which is known in all parts of the country as Dogwood, Great flowered cornel, Box-wood, &c., but most generally as Dogwood. There are several species of the Cornus, none of which, we believe, are equal to the Cornus florida. We may mention the Cornus sericea, C. circinata, C. alternifolia, C. striata, C. sanguinea, &c.

We need not describe the Cornus florida; every body is familiar with it; and those who are not, will hardly presume to take charge of the public health. We do not say that *Cornin*, which is a yellowish drab powder, with a slightly aromatic odor, and an intensely bitter taste, is the best tonic in our latitude; but that it is as good and as reliable as much of the Quinine we get from the shops. To us, while we believe that God has furnished remedies for all diseases of a given locality, it is perfectly evident that there are many good and perfectly reliable

agents of each class, growing in every locality, and that because we have found one that is good, it is not a just reason why we should cease to look for others. The same precise combination of active and elementary principle, seldom enters into two or more plants, but all are governed by the same law of variety. We have by no means found all the best remedies which are scattered by the hand of the allwise God, in every direction around us. We hope to see the day when most of our medicines will be of American extraction.

Cornin has been styled Dogwood quinine, but it was so called simply because it was an antiperiodic and bitter tonic. The Cornin may be used as a substitute for Quinine, either alone or thus combined:

CORNIN,
Hydrastine,
Helonin.

Children often become anæmic, and entozoic—lose their appetites, grow weak, and if they have a tendency to any particular disease, are apt to thus develop it. To prevent this, it will be necessary to give:

CORNIN,
Xanthoxylin,
Euonymin.

This may be worked into a candy lozenge. The bitter taste may be overcome by Ol. Erigeron, Ol. Gualtheria, or Ol. Cinnamon. The Cornin is a stimulating tonic, and hence its effects will be seen sooner than those of most tonics. It can be freely given where Quinine, from idiosyncratic peculiarity, is not tolerated. Its prominent advantage over Quinine is, that it does not cost so much, by one half; and while it is equal to the Quinine, when procured in a pure form, it is an American drug, and possibly may be better adapted to the diseases of this country than Quinine, which is derived from a foreign plant. This is a guess, and is only mentioned as such, but we have strong reasons for believing it to be true. The dose of the Cornin is ONE TO SIX grains, according to the indications for its use. In sunstroke, we may give it in twenty grain doses. A Cornin

was at one time obtained from the flowers of the Cornus florida, and used as a tonic; we are satisfied, however, that it was an almost valueless agent, and hence prefer that from the bark.

VIBURIN.

THE VIBURIN is obtained from Viburnum opulus (Caprifoliaceæ.) This plant has also been known as V. oxycoccus. Its common names are High-cranberry, Crampbark, &c. It is indigenous to the northern part of the United States. The Viburin is obtained from the bark.

Viburin is a snuff-colored powder, with a feeble odor, somewhat resembling tanned leather, and a bitterish, rather peculiar taste. It is an aromatic, stimulating, and rather narcotic tonic, which is much used in all spasmodic affections—hysteria, asthma, cramps of the limbs, &c. For hysteria, we may combine:

VIBURIN,
Scutellarin,
Cypripedin,
Caulophyllin,
Xanthoxylin.

Hysteria is a rather peculiar disease, and may arise from many causes; and, as the cause must be sought out and removed, our prescriptions will vary very much. It is not uncommon for us to prescribe any of the following:

Xanthoxylin,
Cypripedin;
or:
Caulophyllin,
Scutellarin;

or:

Macrotin,
Helonin:

or:

VIBURIN,
Gelsemin,
Hydrastine,
Xanthoxylin,
Cypripedin,
Scutellarin.

In the cramps, which so much trouble some pregnant females, the Viburin will be found a most valuable remedy, when given either alone, or in combination thus:

VIBURIN,
Xanthoxylin,
Cypripedin,
Rhusin,
Lupulin.

Or what is equally as effective, though not so safe, is:

Camphor,
Morphine,
Quinine.

The Quinine must be given in very small quantity, or we may counteract the influence of the Morphine and Camphor. This last formula we used much before we were in possession of the concentrated remedies which we have been noticing.

The dose of Viburin is TWO grains, more or less, according to the indications for its use. It is indicated, also, in epilepsy. For the removal of epilepsy, we have given it thus combined:

VIBURIN,
Hydrastine,
Strychnine,
Xanthoxylin,
Asclepin.

Epilepsy is a disease which is rather difficult to treat, and must be treated on general principles. The nerves are prominently involved, and in attempting to remove it, we shall be compelled

to use only such remedies as tend to tone up the nervous system, and give a free and equal force to the circulation of the nervous currents.

HYOSCIAMIN.

HYOSCIAMIN is obtained from the Hyosciamus niger (Solanaceæ,) or Henbane, as it is commonly called. Hyosciamus is really a native of Europe, but has been extensively naturalized to the northern part of the United States, where it attains a very complete development. The plant is not eaten, we believe, by any animal except the hog; and hence its Greek name. The white Hyosciamus was much employed by the ancients, for some of the earliest writers on medical science speak of it, and especially of the oil, which was much used in the treatment of diseases of the ear, particularly those which were attended with much pain. The Hyosciamus niger, or black henbane, was but little used, we believe, previous to 1762, when it was strongly recommended as a reliable narcotic and sedative. By analysis, it has been found that the Hyosciamus niger contains:

Fixed oil,	24.2 pr. ct.
Solid, fatty matter,	1.4 " "
Gum,	1.2 " "
Bassorin,	2.4 " "
Starch,	1.5 " "
Phyteumacolla,	3.4 " "
Albumen,	4.5 " "
Vegetable fibre,	26.0 " "
Water,	24.1 " "
Saline matter,	9.7 " "

Such is the declaration of chemists, or, rather, a chemist; but we have been unable to obtain such a list. We have obtained the Hyosciamia, of the older writers, and which, on account of its alkaloid properties, we term Hyosciamine, a resinoid principle (the one under consideration,) which we term Hyosciamin, a fixed oil, sugar, starch, and vegetable fibre, and some earthy salts. The whole virtue of the plant seems to depend upon two principles—the alkaloid, Hyosciamine, and the resinoid, Hyosciamin. These principles differ in this respect, viz: the Hyosciamin is less acridly narcotic, and more sedative than the Hyosciamine. The Hyosciamine, the alkaloid, is in such a small proportion to the Hyosciamin, that economy would always prevent its general manufacture and use. Besides, where there is any temptation to manufacture an impure article, in order to bring it within the pale of economy, manufacturers may not be as particular as they otherwise might be. Above all things, good or bad, let our preparations be what they are represented to be.

Hyosciamin, as now prepared at the American Chemical Institute, is a beautiful, greenish-brown powder, with an odor very similar to that of the best Rio-Hondo cigars. Perhaps, if a thousand smokers were blindfolded, and asked to pronounce its name by the odor, every one would say it is "a box of the finest and best flavored Rio-Hondo cigars." The taste of this peculiar preparation is not very unlike that of the best Scotch snuff, and we venture to assert that it would be taken for *finely* powdered Scotch snuff, by a majority of persons. If the reader will consult the first part of this book (pp. 76–80, inclusive,) he will get a good impression of the peculiar action of Hyosciamin, which does not greatly differ from Nicotina. Hyosciamin, when placed on the tongue, paralyses it to a considerable extent, and leaves on the part with which it comes in contact, a sense of coldness and numbness.

Its narcotic properties may be very effectually modified, or, indeed, even neutralized by oil of Sassafras, without at the same time materially affecting its sedative virtues. And, unless we desire to get its narcotic effects, it would be well to always give

it with oil of Sassafras. Should we at any time give it in too large doses, we may thus guard our patient from any serious results by the free administration of oil Sassafras. When given in *over* doses we get, as the result of the poisoning, irritation of the alimentary canal, dilation of the pupils, partial loss of sight, interrupted speech, stupor or delirium, convulsions, paralysis of certain muscles, great arterial prostration, painful, convulsive movements of the intestines, which, if the dose has been very large, may end only in death.

But in proper medicinal doses it is a safe and reliable anodyne, and when combined with Lupulin or Cypripedin thus:

HYOSCIAMIN,
Lupulin,
Cypripedin,
Caulophyllin,
Macrotin,

is one of the safest, surest, and most reliable Hypnotics we possess. We have already given several Hypnotic formulas, but none which would be more efficient than the above. Most generally, when we are called on, by the indications, to administer Opium, there is already a tendency to constipation, and we are compelled to seek an agent which will *not* add to the intestinal mischief. In Hyosciamin, we find *that* for which we would, under such circumstances, seek—a narcotic and sedative which, while it quiets the nervous system, relieves pain, and produces sleep, has a laxative effect on the bowels. We may give it in the highest stages of fever, in combination with other agents of the proper kind, thus:

HYOSCIAMIN,
Gelsemin,
Veratrin,
Asclepin.

Of course, the practitioner must apportion each article according to the particular case in hand. Hyosciamin, may be used in the treatment of neuralgia, asthma, gout, syphilitic, or other form of chronic rheumatism, with the best effects when thus combined:

HYOSCIAMIN,
Xanthoxylin,
Cypripedin,
Viburin,
Ol. Sassafras.

In very small doses, it may be advantageously combined with Podophyllin, or any other active cathartic to prevent tormina. Rubbed up with hog's fat, and rubbed on painful tumors, it will often give almost immediate relief. From the very nature of the remedy, the intelligent physician will at once see the cases, or rather the indications which will demand the use of this important agent. The dose of the Hyosciamin is ONE-TWELFTH of a grain to ONE-SIXTH of a grain. When giving it to those who have habituated the system to the use of tobacco, we may commence with one-eighth of a grain, but to delicate persons who have not been in the habit of using narcotics, it is necessary to begin with small doses, say one-sixteenth of a grain, and gradually increase it until the desired object is attained.

LUPULIN.

LUPULIN is obtained from the Humulus lupulus (Urticaceæ,) or common Hop. The Hop is too well known to require a description. The virtues of the Hop plant depend on Lupulin, (not that which has been over and again treated of by other writers on the materia medica,) which is a yellowish powder, with an odor and taste peculiar to the Hop.

Lupulin is a reliable hypnotic, while it is also tonic, diaphoretic, and said to be antilithic, and anthelmintic. Its tonic virtues are slight, and in its anthilmintic properties we have not much

faith. It is certainly diuretic, and as such, may be somewhat antilithic, although our experience does not warrant us in deciding upon its virtues as such. As a nervine, a sedative, and a hypnotic, we have used and seen the Lupulin used, with the best and most satisfactory results. We thus combine it:

LUPULIN,
Macrotin,
Hyosciamin,
Scutellarin.

The story of the "Hop pillow" is well known, and it may be that such an apparatus is good, owing to the emenation of a volatile oil from the Hop, which is absorbed by the skin or inhaled, and thus brought in contact with the nerves. Having never used the Hop pillow, of course, all we could say on it would amount to no more than mere guess work. But we can say with confidence, that wherever the Hop pillow is indicated, the Lupulin may be employed with the happiest results.

Lupulin combined with other agents is valuable in quieting the nervous system in delirium tremens:

LUPULIN,
Cypripedin,
Xanthoxylin,
Hydrastin.

It has, like the Hyosciamin, the advantage of not irritating the stomach or causing constipation. In combination thus:

LUPULIN,
Macrotin,
Caulophyllin,
Scutellarin;

it is an excellent remedy in the treatment of severe after-pains, and also for painful menstruation. By adding Geranin to the above, we have a good formula for arresting a too profuse lochial discharge; or its efficacy may be still enhanced, by also adding Oil of Erigeron. A pill made of:

LUPULIN,
Cypripedin,

Caulophyllin,
Scutellarin,
Viburin,
Xanthoxyllin,

is very effectual in removing pain of the bowels which has been induced by cold. The Lupulin may be combined with most narcotics, when one of a stimulating character is admissible. The dose of Lupulin is ONE grain, which may be gradually increased until we have produced the desired results.

PRUNIN.

PRUNIN is obtained from Prunus Virginiana, (Drupaceæ.) [This plant should really be called Cerasus Seratina, and the active principle Cerasin—but, as it is known to the medical public as Prunus Virginiana, we deem it best to retain the old nomenclature, trusting to a more extensive spread of botanical information to correct the error.] By its common name—Wild cherry it is well known in all parts of the United States. There are few practitioners who have not used the bark of the wild cherry tree in some shape or other, and hence, we need not refer to the peculiarities of its action in the system.

Prunin, the active resinoid principle of P. Virginiana, is a snuff-colored powder, with a pleasant, rather aromatic odor, and a rather unpleasant feeble taste, which becomes bitter as the article is held for a longer time in the mouth. It possesses the virtues of the plant—viz: Tonic, and pleasantly stimulating to the digestive organs, and while it is such, exercising a marked influence over the force of the circulation. This is,

perhaps, owing to the presence of Hydrocyanic acid. It has been found beneficial in the treatment of pulmonary disease, especially of a bronchial character, and in phthisis, when hectic fever is present. It has been found very beneficial in the treatment of dyspepsia induced from the excessive use of tobacco, thus combined:

PRUNIN,
Xanthoxylin,
Scutellarin,
Hydrastin,
Phytolacin.

Associated with Stillingin, Phytolacin and Hydrastin, it has been used with some success as a tonic alterative in the treatment of scrophula. Prunin may be used in toning up the systems of delicate and hysteric females, in combination with Cypripedin and Macrotin. The dose of Prunin is TWO grains, which may be increased, gradually to three grains. It produces a very soothing and pleasant effect on the system, and hence, though made into a bitter tincture, patients do not usually object to taking it. It is better to rely on a mild agent like the Prunin, in the treatment of those delicate nervous females, we so often meet with in high life, than to begin with more positive agents, which too sensibly impress the economy.

KIND READER, we have noticed the principal concentrated preparations which have been discovered and presented the profession, within the last twelve years. There are many industrious chemists, and many whose labors have been eminently crowned with success. There are chemists who would claim for themselves, every discovery made by them, as something of material interest—while there are others, who, though, perhaps, really entitled to more credit for the results of their researches, care but little as to the authorship of a discovery, and are always happy to assist in bringing the positive agents of the materia medica before the public. There are chemists who pursue their avocation for the sole purpose of making a living; and there are others, who spend the midnight hours of a long life, in

intense thought, trying to develop the means of curing disease, when they know it can be of no pecuniary advantage to them whatever. Medicines have been adulterated, and they may be again; now, we ask, which class of chemists is most likely to stoop to the trade of the adulterator. Let the practitioner be sure of the men who manufacture his medicines; let him be satisfied that they are actuated by a higher and holier sense of duty, than the mere acquisition of the almighty dollar. Beware of men who slander others, in order to get your custom—they are untrustworthy, and will sell you an oil, rubbed up in sugar, for a genuine concentrated medicine. It is said, such things have been done—though of its truth, we beg to entertain a doubt, as the cheat could be too easily detected, to make it a safe business. We have carefully tried the agents which we have noticed and recommended, and can assure the reader, that they are as pure as they can be got, in the present imperfect state of organic chemistry. The only impurity, probably, contained by these concentrated medicines, of which we have been writing, is the coloring matter of the plant. With our present lights, we do not know how to get clear of it, and retain the medicinal virtues of the plant intact. As they are probably inert, and altogether harmless, their removal could only be productive of a little more beauty. But what matters it to a sick man, whether he takes a yellow, a red, a snuff, a drab, a white, or a black powder, so he is cured?

Individuals deeply interested—men who have invested *all* in a business or a traffic—are too apt to exert improper, dishonest, and unkind influences, to build up their own business, at the expense of others. Large associations, which aim at a benevolent object, are less apt to stoop to low and maligning tattle about their neighbors, or those who are, like themselves, engaged in manufacturing an article. It was to ensure the preparation of pure articles, that the American Chemical Institute was organized. Its proprietors are men, mostly, who have no party prejudices to satisfy; its chemists are men of known probity, and scientific attainments. The association has organized a Clinical Institution, in connection with the establishment, in order

to learn precisely what is the value of the concentrated principles they manufacture. This is the only way to get at the truth —where a large number of patients are daily present, and are prescribed for by a body of competent medical gentlemen, in consultation. The results, thus far, have been highly satisfactory.

Others may manufacture articles as pure as those obtained at the American Chemical Institute; we know nothing to the contrary—but we know of no establishment save this, that claims to prepare these medicines in the form of powder. More than a century has passed, since pharmaceutists began to extract the active principles of plants; but so slow and difficult has been the investigation, that *comparatively* little has been done, until very recently. The process now persued, is essentially different from the processes of the older chemists. This new process must give a new impetus to this investigation, and we may expect the continued announcement of the discovery of new agents, until the materia medica shall, indeed and in fact, be a *positive* materia medica.

It will be noticed, that heretofore the active principles of plants have been supposed to depend either on alkaloids, oils, gums, or acids. Resins have had but little credit for their virtues, and have been generally regarded as almost or quite valueless. Among the alkaloids which have been long known, we may mention:

Aconitine, from Aconitum nepellus,
Aricine, " Arica bark,
Atropine, " Atropia belladona,
Brucine, " Strychnos nux vomica,
Cinchonine, " Cinchona lancifolia,
Codeine, " Opium,
Conine, " Conium maculatum,
Corydaline, " Corydalis tuberosa,
Cynapine, " Æthusa cynapium,
Daturine, " Datura stramonium,
Delphine, " Delphinium staphisagria,
Digitaline, " Digitalis purpurea,

Emetine, from Cephælis ipecacuanha,
Hyosciamine, " Hyosciamus niger,
Meconine, " Opium;
Morphine, " "
Narceine, " "
Narcotine, " "
Nicotine, " Nicotiana tobacum,
Picrotoxine, " Menispermum coculus,
Quinine, " Cinchonia cordifolia,
Sanguinarine, " Sanguinaria canadensis,
Solanine, " Solanum nigrum,
Thebaine, " Opium,
Veratrine, " Veratrum sabadilla.

These do not, by any means, embrace all, but enough to show that inquiries have long been turned in this direction. We will notice, briefly, the properties of some of these alkaloids, as obtained by the old process.

ACONITINE.—This principle was discovered in 1833. It is a most powerful poison—one-fiftieth of a grain having endangered life, according to high authority. It sells for 70 cts. per grain, or $336 per oz. A spurious article has been sold for about 10 cents per grain. It is a powerful narcotic and has been used in neuralgic affections. We consider it altogether too acrid for use, except by the most skillful persons. It is a white odorless powder.

ARICINE—Is a white crystalized powder, in no respect superior to Quinine—besides it is too dear for ordinary use. It is tonic and antiperiodic.

BRUCINE—Is very similar in its properties to Strychnine; but is only one-twelfth as strong. It seems to be little more than Strychnine adulterated with an acid.

CINCHONINE—Is very similar to Quinine in its properties and uses; the principal difference being its more difficult solubility.

CODEINE—Is a peculiar principle, very much resembling Morphine, except when administered in doses of one-sixth of a grain, it induces intolerable itching on the surface. It is contained in muriate of Morphia.

CONINE—Is very poisonous—one-tenth of a grain being sufficient to kill a rabbit in less than half a minute. When taken in a poisonous dose the effect is terrible. It should not be used as a medicine.

CORYDALINE.—Not at present used or known as a medicine—but an alkaloid of a very different kind, bearing the same name, has been in use for sometime among western physicians.

DATURINE.—A very powerful agent, not now known in medicine.

DELPHINE—Is a white odorless powder, with an acrid, bitter taste, readily soluble in alcohol. It seems to be an impure alkaloid, containing some resin. It is a stimulating narcotic, and may be exhibited in neuralgia and rheumatism, in one or two grain doses. It is not worth much.

DIGITALINE.—This is a white, inodorous, bitter powder, very poisonous; containing the properties of the Digitalis in a very concentrated degree, and with the additional property of being much more irritating to the stomach. It should hardly be used as a medicine.

EMETINE.—When pure is a prompt emetic in doses of ONE-SIXTEENTH of a grain. It is, when pure, perfectly white and very soluble in alcohol. We have too many reliable emetics to depend on one which is apt to act so harshly as this. A resinoid prepared from the same plant would no doubt be a good and reliable medicine.

HYOSCIAMINE—Is far less reliable than the Hyosciamin which we heve already mentioned. We have also refered to this agent.

MECONINE.—Valueless.

MORPHINE.—A valuable remedy—its history and properties are well known—narcotic in doses of ONE-SIXTH to one grain.

NARCEINE—Is nearly inert—though its name indicates stupor. It is valueless.

NARCOTINE.—As it has been heretofore obtained, is not a proper medicine. One grain dissolved in Olive Oil has been known to kill a dog in twenty-four hours, whereas, one hundred grains undissolved, has been taken with impunity. It is said to

be a good substitute for Quinine in fever and ague. We have no faith in it.

NICOTINE—Is a colorless, volatile liquid, which is soluble in water. A single drop would kill a man not accustomed to it. Half a drop has been known to kill a dog.

PICROTOXINE—Is really an acid, of little use in medicine, and not known as such, in the profession.

QUININE—Is a valuable medicine—antiperiodic tonic, well known and extensively used in all parts of the country.

SANGUINARINE.—As prepared by the older chemists, seems to have been a violent irritant. It was never much used we believe, and has now nearly gone out of use. The reader must distinguish this from the Sanguinarin, and Sanguinarine of the present day.

SOLANINE—Is a white powder, very bitter, narcotic, emetic, and in doses too large, powerfully poisonous. We should not use it as a medicine.

THEBAINE.—Acts very much like Strychnine—one grain, thrown into the circulation of a dog causes death in a few minutes. It is also narcotic. It is a whitish powder, never used as a medicine.

VERATRINE.—When pure is a perfectly white powder. ONE-SIXTEENTH of a grain is a dose. We much prefer the Veratrin.

The above embraces only a few of the more important alkaloids, few of which are used to any extent in medicine. Owing to the waste of material in procuring them, we need not expect that they will be brought forward as medicines, at any future time. The resinoids, of which we have already treated at length, often contain more or less of the alkaloid principles thus maintaining nature's combination.

Many of the acids are valuable medicines. More than one hundred are now used or have been used in medicine, but as it is not our province to notice all the agents of the materia medica, we must pass them unnoticed.

Many of the oils, of which there have been prepared for medicinal purposes over eighty, are to be regarded as worthy of every confidence. Others, and a very large class too, possess

no other quality than what is common to the volatile oils, and probably differ only in their odor and color. We have already noticed a few oils, worthy of every physician's attention, and we might, with propriety, name others; but as the list is so full, and their properties have been so well noticed by other writers, we can only refer to our large dispensatories.

It is our object only to bring before the profession, in the plainest and most concise form, the reliable concentrated medicines, whose history, heretofore, has been known to only a few, engaged either in preparing or using them. We have endeavored to do this, in the most pointed manner, and in the simplest style, in order to insure a due conception of our statements. It only remains to collect the formulas which are scattered through the work, and present them, with indications of the diseases in which they are to be used—to give the doses and properties of each agent, which will serve to refresh the memory of the reader, and save him the trouble of retracing his steps, as it were, over what he has read. But we beg again to say, we are no advocates for recipe practice, and only give the formulas which we have given and shall give, as examples. The physician must know what he ought to use, its properties, and how to use it. *We declare it as our conscientious conviction, that if every work on practice now extant, no matter by whom written, was destroyed from the face of the earth, mankind would be greatly benefitted.* Recipe practice prevents a vast majority from studying properly, physiology, pathology, therapeutics, and materia medica. See how soon practitioners forget what they had learned in the lecture room of anatomical science. They are, when in practice, as constantly called on to exercise their judgment, as educated by the science of anatomy, as the builder is, to remember the names and offices of every timber entering into the construction of a house. The practitioner, some of them, at least, forgets the names and offices of bones, muscles, tendons, arteries, veins, glands, nerves, and tissues; but the carpenter does not forget the anatomical nomenclature of the house. Need we ask why is this? The practitioner has no necessity to retain the barbarous names of anatomy—no need

of taxing his mind with the functions and appearances of healthy organs—no necessity for inquiring into the peculiar pathological conditions which produce symptoms which we say indicate disease—no use for the logic of therapeutics—no inclination to learn the therapeutic value of the countless agents which the good God has so profusely scattered over the earth! And why is this so? We answer, simply because he has recipes to meet every symptom! Some one else has done his thinking for him, and he is content to abide by its correctness! Let every physician study the phenomena of disease, as though a pestilence had swept every medical book into an untimely grave.

We again repeat, the science of medicine can be elevated only by independence of thought. If we give a formula, *as an example*, it is the reader's place to judge whether it is worthy of his confidence or not. We have attempted only to give a few, as illustrations of the combinations of medicines, when the agents are positive. We assure those who have not paid special attention to this subject, that the efficacy of medicines may be greatly increased, by proper combination.

FORMULAS OF THIS WORK.

Page 99.—No. 1.—	Podophyllin, Leptandrin, Xanthoxylin, GERANIN, Lupulin, Stillingin, Senecin.	Used in first stages of dysentery.
Page 99.—No. 2.—	GERANIN, Leptandrin, Helonin, Lupulin.	Used in developed dysentery.
Page 99—No. 3—	GERANIN, Hydrastine, Apocynin.	Used in the sinking stages of dysentery.

Page 102—No. 4—	HYDRASTIN, Leptandrin, Xanthoxylin, Asclepin.	Used in constipation.
Page 105—No. 5—	HYDRASTINE, Geranin, Cypripedin, Gelsemin, Xanthoxylin.	Used in colliquative sweats and diarrhœa.
Page 105—No. 6—	HYDRASTINE, Leptandrin, Chelonin, Scutellarin.	Used in dyspepsia.
Page 106—No. 7—	Podophyllin, HYDRASTINE, Leptandrin, Senecin.	Intermittent prophylactic.
Page 106—No. 8—	HYDRASTINE, Morphine, Asclepin.	Used in intermittent fever.
Page 108—No. 9—	APOCYNIN, Stillingin, Asclepin, Helonin.	Used in secondary syphilis.
Page 109—No. 10—	Podophyllin, Asclepin, Jalapin, APOCYNIN, Senecin.	Used in dropsy.
Page 114—No. 11—	GELSEMIN, Podophyllin, Leptandrin, Hydrastine, Helonin, Phytolacin.	Used in dropsy.

Page 114—No. 12—	Cypripedin, Euonymin, Hydrastine.	Soothing Tonic.
Page 117—No. 13—	Caulophyllin, Asclepin, Helonin, Macrotin, Scutellarin.	Parturafacient Purposes.
Page 118—No. 14—	Xanthoxylyn, Stillingin, Caulophyllin, Hydrastin.	In Syphilitic Rheumatism.
Page 118—No. 15—	Podophyllin, Caulophyllin, Scutellarin.	Cathartic.
Page 118—No. 16—	Scutellarin, Caulophyllin.	In Hysteria.
Page 121—No. 17—	Capsicin, Myricin, Alcohol.	Used in Catarrh.
Page 121—No. 18—	Xanthoxylyn, Hydrastine, Morphine, Phytolacin.	Catarrhal Prophylactic.
Page 121—No. 19—	Hydrastin, Capsicin, Xanthoxylin, Chelonin, Stillingin.	In Atonic Dyspepsia.
Page 122—No. 20—	Capsicin, Ol. Erigeron, Ol. Cinnamon.	In Uterine Hemorrhage.

Page 122—No. 21—Capsicin,	Hydrastine, Strychnine, Myricin, Geranin.	In Asiatic Cholera.
Page 122—No. 22—Capsicin,	Olive Oil, Oil Turpentine.	Rubefacient.
Page 124—No. 23—Chelonin,	Leptandrin, Xanthoxylin.	In Torpidity of the Liver.
Page 124—No. 24—Chelonin,	Podophyllin, Hydrastine, Asclepin, Rhusin, Jalapin.	Anthelmintic.
Page 125—No. 25—Leptandrin,	Chelonin. Hydrastine Asclepin.	In Habitual Constipation.
Page 126—No. 26—Asclepin,	Stillingin, Phytolacin.	Used in Secondary Syphilis.
Page 127—No. 27—Asclepin,	Geranin, Phytolacin, Hydrastine.	In Developed Dysentery.
Page 127—No. 28—Podophyllin,	Xanthoxylin, Asclepin, Caulophyllin.	In Headache dependent on Constipation.
Page 127—No. 29—Asclepin,	Sanguinarin, Capsicin.	Diaphoretic.

Page 130—No. 30—	Cypripedin, Scutellarin, Phytolacin.	In Neuralgia.
Page 130—No. 31—	Hydrastin, Cypripedin, Macrotin, Xanthoxylin, Scutellarin.	Used in Chorea.
Page 130—No. 32—	Cypripedin, Hydrastin, Euonymin.	In chronic chorea.
Page 131—No. 33—	Cypripedin, Hydrastin, Asclepin.	In epilepsy.
Page 131—No. 34—	Cypripedin, Morphine, Xanthoxylin.	In nervous irritability
Page 132—No. 35—	Cypripedin, Xanthoxylin, Asclepin, Hydrastine, Rhusin.	In delirium tremens.
Page 132—No. 36—	Cypripedin, Cornin, Myricin, Xanthoxylin.	In delirium tremens.
Page 134—No. 37—	Eupatorin, Geranin, Asclepin.	In hæmaturia.
Page 134—No. 38—	Eupatorin, Cornin, Caulophyllin, Stillingin, Senecin.	In lithic diathesis.

Page 134—No. 39—EUPATORIN,
Cypripedin,
Ol. Turpentine,
Ol. Erigeron.
} Diuretic.

Page 136—No. 40—RHUSIN,
Geranin,
Hydrastine.
} In sore mouth.

Page 136—No. 41—Hydrastine,
RHUSIN,
Myricin.
} In chronic diarrhœa.

Page 137—No. 42—MYRICIN,
Stillingin,
Phytolacin,
Xanthoxylin,
Leptandrin.
} In scrophula.

Page 138—No. 43—MYRICIN,
Geranin,
Hydrastin,
Cypripedin,
Ol. Erigeron.
} In typhoid diarrhœa.

Page 138—No. 44—Podophyllin,
Leptandrin,
Caulophyllin.
} Cathartic.

Page 139—No. 45—HELONIN,
Eupatorin,
Senecin,
Asclepin.
} Diuretic.

Page 140—No. 46—Leptandrin,
Chelonin,
HELONIN,
Podophyllin,
Hydrastine.
} Vermifuge.

Page 146—No. 47—	Podophyllin, Caulophyllin, Leptandrin, Xanthoxylin, Irisin, Capsicin.	Cathartic.
Page 148—No. 48—	Podophyllin, Stillingin, Sanguinarin, Eupnymin, Apocynin.	Alterative.
Page 149—No. 49—	Podophyllin, Leptandrin, Caulophyllin, Gelsemin, Stillingin.	In Puerperal Fever.
Page 149—No. 50—	Podophyllin, Asclepin, Eupatorin, Capsicin, Sanguinarin.	In Dropsies.
Page 150—No. 51—	Podophyllin, Scutellarin, Cypripedin, Capsicin, Xanthoxylin, Phytolacin, Gelsemin.	In Neuralgia.
Page 152—No. 52—	Lobelin, Sanguinarin, Scutellarin.	Emetic.
Page 152—No. 53—	Lobelin, Morphine, Gelsemin, Hydrastine.	In painful Ulcers.

Page 153—No. 54—	Capsicin, Xanthoxylin, Cypripedin, Scuttellarin.	Stimulating Nervine.
Page 154—No. 55—	SANGUINARIN, Lobelin, Stillingin.	Emetic.
Page 154—No. 56—	SANGUINARIN, Podophyllin. Leptandrin, Caulophyllin, Stillingin, Phytolacin.	In Hepatic Affections.
Page 157—No. 57—	LEPTANDRIN, Podophyllin, Xanthoxylin, Caulophyllin, Stillingin.	In Chronic Constipation.
Page 157—No. 58—	LEPTANDRIN, Xanthoxylin, Sanguinarin, Phytolacin, Hydrastin, Irisin.	Intestinal Tonic.
Page 157—No. 59—	Podophyllin, LEPTANDRIN, Caulophyllin, Irisin, Sanguinarin.	In Hepatic Torpidity.
Page 158—No. 60—	LEPTANDRIN, Phytolacin, Cypripedin, Xanthoxylin, Hydrastine, Helonin.	In Dyspepsia.

Page 164—No. 61—	Hydrastine, LEPTANDRIN, Asclepin, Eupatorin, Cypripedin.	In typhoid fever.
Page 164—No. 62—	Asclepin, LEPTANDRIN, Hydrastine.	Tonic.
Page 164—No. 63—	Ol. Erigeron, Pure Albumen, Cypripedin.	In tympanitis.
Page 164—No. 64—	Scutellarin, Cypripedin, Apocynin, Lupulin.	In nervous irritability.
Page 166—No. 65—	Leptandrin, Sanguinarin, EUONYMIN, Podophyllin.	In torpidity of liver.
Page 166—No. 66—	Chelonin, EUONYMIN, Xanthoxylin, Caulophyllin, Irisin.	Anthelmintic.
Page 166—No. 67—	Leptandrin, EUONYMIN, Apocynin.	In constipation.
Page 167—No. 68—	EUONYMIN, Xanthoxylin, Rhusin, Scutellarin.	In dyspepsia.
Page 169—No. 69—	IRISIN, Apocynin, Podophyllin, Senecin, Caulophyllin.	In dropsies.

Page 169—No. 70—	IRISIN, Stillingin, Phytolacin, Macrotin.	In syphilis.
Page 170—No. 71—	IRISIN, Podophyllin, Leptandrin, Xanthoxylin, Hydrastine.	In chronic hepatitis.
Page 170—No. 72—	IRISIN, Xanthoxylin, Podophyllin, Sanguinarin.	In chronic hepatitis.
Page 171—No. 73—	Caulophyllin, IRISIN, Macrotin, Scutellarin.	In torpidity of the uterine functions.
Page 172—No. 74—	Stillingin, Phytolacin, Xanthoxylin, RUMIN, Hydrastine.	In scorbutic cachexy.
Page 174—No. 75—	ALNUIN, Phytolacin, Irisin, Xanthoxylin, Asclepin.	In scrophula & syphilis
Page 176—No. 76—	OL. ERIGERON, Ol. Turpentine, Ol. Olivæ.	Stimulating astringent
Page 176—No. 77—	Ol. Erigeron, Ol. Cinnamon, White Sugar, Gum Arabic.	In hæmaturia.

Page 177—No. 78—	SENECIN, Caulophyllin. Macrotin.	In promoting the menshual flow.
Page 178—No. 79—	SENECIN. Asclepin, Macrotin, Cypripedin, Helonin.	In dysmenorrhœa.
Page 178—No. 80—	Hydrastin, SENECIN, Asclepin, Scutellarin.	In Chlorosis.
Page 181—No. 81—	PHYTOLACIN, Stillingin, Senecin, Asclepin, Podophyllin, Leptandrin.	In Syphilis.
Page 182—No. 82—	PHYTOLACIN, Asclepin, Leptandrin, Sanguinarin.	In secondary syphilis.
Page 183—No. 83—	PHYTOLACIN, Asclepin, Leptandrin, Gelsemin, Sanguinarin.	In High Fevers.
Page 183—No. 84—	PHYTOLACIN, Hydrastine, Leptandrin.	In Placenta Febrilis.
Page 183—No. 85—	PHYTOLACIN, Camphor, Morphine.	In Nocturnal Emissions.

Page 184—No. 86—PHYTOLACIN,
Asclepin,
Euonymin,
Myricin.
} In Exanthematous disease.

Page 184—No. 87—Ol. Erigeron,
Creasote,
Alcohol.
} Externally in Scabies, &c.

Page 186—No. 88—PHYTOLACIN.
Asclepin,
Hydrastin
Leptandrin,
Rhusin.
} Phthisical prophylactic.

Page 185—No. 89—PHYTOLACIN,
Cornin,
Cypripedin,
Stillingin.
} In Chronic Rheumatism.

Page 187—No. 90—SCUTELLARIN,
Cypripedin,
Xanthoxylin.
Myricin,
Asclepin.
} In Chorea.

Page 187—No. 91—SCUTELLARIN,
Strychnine,
Xanthoxylin.
} In Malignant Chorea.

Page 188—No. 92—SCUTELLARIN,
Gelsemin,
Cypripedin,
Xanthoxylin.
} In Neuralgia.

Page 188—No. 93—SCUTELLARIN,
Cypripedin,
Caulophyllin.
} In delirium tremens.

Page 188—No. 94—SCUTELLARIN,
Hydrastine.
} In delirium tremens.

Page 189—No. 95—Scutellarin,
Gelsemin.
} In obstinate delirium tremens.

Page 189—No. 96—Scutellarin,
Cypripedin,
Xanthoxylin,
Helonin,
Hydrastin,
Podophyllin.
} Tonic and Alterative Nervine.

Page 189—No. 97—Capsicin,
Xanthoxylin,
Cypripedin,
Myricin,
Asclepin,
Irisin.
} In Hydrophobia.

Page 194—No. 98—Jalapin,
Caulophyllin.
Cypripedin.
} Cathartic.

Page 194—No. 99—Jalapin,
Podophyllin,
Asclepin,
Cypripedin,
Irisin.
} In Dropsies.

Page 195—No. 100—Jalapin,
Asclepin,
Podophyllin,
Apocynin,
Senecin.
} In engorgement of the liver.

Page 196—No. 101—Asclepin,
Sanguinarin,
Eupatorin,
Phytolacin.
Senecin.
} Diaphoretic.

Page 196—No. 102—JALAPIN,
Leptandrin,
Caulophyllin,
Asclepin,
Phytolacin.
Hydrastine,
Senecin.
} In convalescing stages of ascites.

Page 200—No. 103—STILLINGIN,
Phytolacin,
Senecin,
Asclepin,
Hydrastine.
} In secondary syphilis.

Page 201—No. 104—STILLINGIN,
Phytolacin,
Cypripedin,
Xanthoxylin,
Myricin.
} In glandular disease.

Page 203—No. 105—XANTHOXYLIN,
Hydrastin,
Cypripedin,
Stillingin,
Asclepin.
} In chronic rheumatism

Page 203—No. 106—Scutellarin,
Caulophyllin,
XANTHOXYLIN,
Phytolacin,
Stillingin,
Asclepin.
} In syphilitic rheumatism.

Page 204—No. 107—XANTHOXYLIN,
Strychnine,
Capsicin,
Geranin,
Viburin,
Cypripedin.
} In cholerine prostration.

Page 214—No. 108—	Veratrin, Phytolacin, Asclepin, Rumin.	In fevers of various types.
Page 215—No. 109—	Cornin, Hydrastine, Helonin.	In intermittent fevers.
Page 215—No. 110—	Cornin, Xanthoxylin, Euonymin.	In anæmic conditions.
Page 216—No. 111—	Viburin, Scutellarin, Cypripedin, Caulophyllin, Xanthoxylin.	In hysteria.
Page 217—No. 112—	Viburin, Xanthoxylin, Cypripedin, Rhusin, Lupulin.	In cramps.
Page 217—No. 113—	Viburin, Hydrastine, Strychnine, Xanthoxylin, Asclepin.	In epilepsy.
Page 220—No. 114—	Hyosciamin, Lupulin. Cypripedin, Caulophyllin, Macrotin.	Anodyne and hypnotic.
Page 220—No. 115—	Hyosciamin, Gelsemin, Veratrin. Asclepin.	In fevers.

Page 221—No. 116—Hyosciamin,		
	Xanthoxylin,	In neuralgia, gout, &c.
	Cypripedin,	
	Viburin,	
	Ol. Sassafras.	
Page 222—No. 117—Lupulin,		
	Macrotin,	Hypnotic, &c.
	Hyosciamin,	
	Scutellarin.	
Page 222—No. 118—Lupulin,		
	Cypripedin,	In delirium tremens.
	Xanthoxylin,	
	Hydrastin.	
Page 222—No. 119—Lupulin,		
	Macrotin,	In dysmenorrhæ &c.
	Caulophyllin,	
	Scutellarin.	
Page 222—No. 120—Lupulin,		
	Cypripedin,	
	Caulophyllin,	In flatulence, &c.
	Scutellarin,	
	Viburin,	
	Xanthoxylin.	
Page 224—No. 121—Prunin,		
	Xanthoxylin,	
	Scutellarin,	In dyspepsia, &c.
	Hydrastine,	
	Phytolacin.	

We beg the reader to notice that the efficacy of the foregoing formulas, depend, in a great measure, on the leading remedy used, and that the other agents are only added to either qualify the leading article, or to fill some particular indication, or indications, which would not be met by the leading agent alone. We trust no intelligent person will misapprehend us. We would again remind the reader, that we give only those formulas which suit us—and that what we have given are offered *as examples* of what we think to be proper combinations.

LIST OF CONCENTRATED MEDICINES, TOGETHER WITH THEIR DOSES AND PROPERTIES.

Geranin,	dose	Five	grains.	Powerful astringent.
Hydrastin,	"	Three	"	Laxative tonic.
Hydrastine,	"	Two	"	Astringent tonic.
Apocynin,	"	Two	"	Alterative, tonic, diuretic.
Gelsemin,	"	One	"	Sedative narcotic.
Caulophyllin,	"	One	"	Parturafacient.
Capsicin,	"	One	drop.	Stimulant.
Asclepin,	"	Two	grains.	Diaphoretic, &c.
Cypripedin,	"	Two	"	Stimulating narcotic.
Eupatorin,	"	Two	"	Diuretic.
Rhusin,	"	Two	"	Astringent tonic.
Myricin,	"	Three	"	Stimulating tonic.
Helonin,	"	Three	"	Anthelmintic, diuretic & tonic.
Podophyllin,	"One to three		"	Cathartic, &c.
Lobelin,	"Half to one		"	Emetic, &c.
Sanguinarin,	"	Two	"	Emetic, &c.
Leptandrin,	"	Two	"	Laxative, alterative, &c.
Euonymin,	"	Two	"	Laxative, tonic, &c.
Irisin,	"	One	"	Cathartic, &c., &c.
Rumin,	"	Two	"	Tonic, alterative, &c.
Alnuin,	"One to four		"	Alterative.
Ol. Erigeron,	"Two to ten drops,			Diuretic, tonic and styptic.
Senecin,	"Two to five grs.			Diuretic, &c.
Phytolacin,	"	One	"	Alterative, &c.
Scutellarin,	"	Two	"	Narcotic.
Jalapin,	"	Two	"	Cathartic.
Stillingin,	"	Two	"	Alterative, &c.
Xanthoxylin,	"	One	"	Stimulating tonic.
Veratrin,	" One-sixteenth			Sedative.
Cornin,	" One to six		"	Bitter tonic.
Viburin,	"	Two	"	Aromatic tonic, &c.
Hyosciamin,	" One-eighth		"	Sedative narcotic.
Lupulin,	"	One	"	Hypnotic, &c.
Prunin,	"	Two	"	Tonic and sedative.

PART III.

CLINIC REPORTS.

CASES IN PRACTICE.

THE object in treating of Clinic practice, in this work, is simply to show the results which have followed the use of the concentrated remedies. Some of the cases reported, are from private practice, but are equally as interesting as cases treated at the Clinic. We do not claim that the cases here reported are any more remarkable, than cases treated by others, either in their character, or mode of treatment, or the results obtained—for the same great principles govern us in prescribing, as govern other properly educated physicians—but we claim to have effected, what has been done, by new agents—agents which are positive in their character, and that the physician, by noticing carefully the character of the cases and plan of treatment, will be enabled to take the same agents and obtain similar results. Our space does not admit of our noticing all the cases in which we, or others of veracity and scientific acquirements have used them; we therefore select only such cases as we deem best calculated to give the regular practicing physician a correct idea of the worth of these medicines. We would not have it understood, that we have cured *every* case, in which we have used these medicines—far from it; we had much to learn, which could be gained only by experimental practice; and, of course, experimental practice must always be attended with many failures. As we have, however, learned the exact properties of the agents we have been using,

the results of our practice have been highly flattering. We shall give the most recent cases, for, as we have succeeded in getting out new principles we have endeavored to use them, and hence, the most recent cases will best illustrate the subject in hand.

CASE 1.—CHRONIC DIARRHŒA, J. S.—Thirty-five years of age. Upon QUESTIONING him, we learned that his bowels had not been constipated for more than a year; that, though he frequently had no more than two operations a day, and sometimes not more than one, yet, they were always very loose, often attended with more or less pain, but sometimes painless; that fresh meats, large draughts of water, exercise, changes of weather and slight irregularities, caused an increase of the disease; that the discharges were small—generally frequent, dark colored, very offensive, and did not much relieve him of the tendency to stool; that his urine was scanty, high-colored, and disagreeably odorous; that he seldom perspired, and often had a tingling sensation on the surface; that he was frequently sick at the stomach, did not rest well, and that when he indulged his appetite, which was rather good, he had sour stomach; said his feet were often cold, that he had headache, some little pain in the right side, and frequently had a chilly feeling along the spine. Upon EXAMINATION, we found his skin dry and hot to the touch, tenderness when pressure was made over the region of the liver, the stomach, or even the abdomen. His tongue was somewhat coated with a whitish fur, was pale, breath fœtid, eyes dull and sunken, skin sallow, lips pale, limbs much emaciated; he was exceedingly nervous and irritable, jumping when we made a snapping noise behind him; his pulse was feeble, and rather quick—said he was very weak, that he had been in the habit of using Laudanum to arrest the disease, but, that while it answered at first, it would not now, as it would put him to sleep, but not arrest the diarrhœa. He was a man of quick, active temperament, and had not been previously much unwell.

To us, his case was a clear one, and we entertained no doubt of being able to arrest it at once, by correcting his diet, and giving him the Geranin. We copy from our books:

April 27.—J. S.—Chronic diarrhœa.—Ordered:

R. Geranin, XVIII gr.
Scutellarin, VI gr.
Rhusin, XII gr.

Make into six equal powders, to be taken morning, noon, and night, for two days.

April 30th.—J. S.—His bowels were checked on the 28th; were almost as bad, yesterday and to-day, as ever. We alter his treatment thus:

R. Leptandrin, II gr.
Podophyllin, I gr.
Xanthoxylin, I gr.
Caulophyllin, I gr.

Make into one powder, to be administered immediately. Will see him to-morrow morning.

May 1.—J. S.—Says his medicine liked to have killed him; he is quite feeble this morning. We shall now try to correct the torpor of his liver, calm the irritability of the stomach, tone up the intestines, increase the renal functions, promote diaphoresis and generally brace him up. To effect this, we order:

R. Leptandrin, XV gr.
Hydrastine, I ℈
Geranin, I ℈
Cypripedin, XV gr.
Asclepin, XV gr.
Phytolacin, VI gr.
Xanthoxylin, VI gr.

Divide into eighteen powders; one to be taken morning, noon, and night, for six days.

May 8.—J. S—. is completely relieved, except some tympanitic symptoms. His lips have acquired their natural hue, his tongue is clean, his skin moist, his urine less colored and odorous, and more abundant, he feels stronger, is less tender in the region of the liver, over the stomach or abdomen; his eyes look bright, and he thinks himself cured, provided he can get clear of the tympanitic pains. We shall give him:

Ol. Turpentine, II gtt.
Ol. Erigeron, II gtt.
Ol. Pepperment, I gtt.

to be taken immediately, and repeated as often as required, dropped on a piece of white sugar. To render the cure permanent, and give tone to the general system, we shall order:

Hydrastine, I ʒ
Xanthoxylin, I ʒ
Cypripedin, I ʒ
Phytolacin, I ℈

M. F. Pil. Div. into LX. pills, one to be taken morning and night, until all are consumed.

June 10.— J. S, called to-day. He has had no return of his diarrhœa, and says he was never better than now. He will now weigh, we think, at least 150 pounds, whereas, on his own statement, he weighed, in April, only 132 pounds. We are pleased with the results of this case in practice. We have many times since followed a similar plan of treatment, often using the formula given on page 99 of this work. We shall not attempt, further than we have, to indicate the causes, &c., of chronic diarrhœa, for it may arise from many different causes, and must necessarily be combated in many different ways. In ordinary acute diarrhœa, we would often find the same plan of treatment excellent, but we meet with other cases requiring only the use of astringents. These are the simplest cases of diarrhœa. There are other forms, requiring tonics, stimulants and astringents combined. As a general thing, it will be well to clear out the stomach and intestines, by a brisk cathartic, which alone, by removing acrid matter, will often cure the disease.

CASE 2.—BRONCHITIS.—Mrs. F. M.—, forty-three years of age. Upon QUESTIONING her, we learned that she had been nearly two years under treatment for consumption. Said every body told her she had no chance to live, &c. Upon EXAMINATION we found her coughing frequently, and throwing off a large amount of a thick, sticky, mucous-like matter, which was occasionally streaked with blood. The tongue was somewhat furred; there was a sense of suffocation or heaviness over

the chest; slight fever; some heat and soreness in the upper part of the chest. On percussion, we could detect no disease in the lower lobes of the lungs, but the upper ones seemed to sound a little dull. It being, however, difficult to sound the female chest, we applied the stethescope. We detected the rale which is peculiar to bronchitis, and we were not long in coming to the conclusion that the patient was laboring under a severe chronic bronchitis, which might soon involve even the lungs. Had there been any indications of a scrophulous diathesis, or phthisical cachexy, we should have been less confident of a cure. The cause of this disease, in the person of Mrs. M. could not be certainly ascertained, but we had reason to think it had come from a neglected attack of acute bronchitis; as to the plan of treatment we were not quite sure, as we had not used the concentrated medicines in the treatment of that disease before. We however give from our book, the plan and results:

May 12.—Mrs. F. M.—Chronic bronchitis—ordered:

℞. Lobelin, 1 gr.

to be taken in the evening. Ordered to go to bed as soon as vomiting had ceased. Then take one of the powders, composed as follows, every three hours during the two next days:

℞ Prunin, VIII gr.
Sanguinarin, IV gr.
Cypripedin, IV gr.
Xanthoxylin, II gr.
Phytolacin, III gr.

Divide into eight powders.

May 10.—Mrs. F. M. says she is better. It is evident she is not: there is too much heat—her disease is aggravated—the prescription would suit a case, no doubt, where there was no irritation. Ordered:

℞ Hydrocyanic acid, III gtts.
Distilled water, III 3.

Of this, take twenty drops every three hours, until consumed.

May 20.—Mrs. F. M. says she is oppressed for breath, and

thinks herself worse; the irritation has subsided, but she is not so strong. We shall order:

℞ Tinct. Veratrum, XV gtts.
" Hydrastis, XXX gtts.
" Gelsemum, X gtts.

Of this mixture take five drops, in a little sweetened water, three times daily, until the medicine is consumed.

May 26.—Mrs. F. M. is much improved. We may now venture on tonics; we order:

℞ Hydrastin, X gr.
Xanthoxylin, X gr.
Prunin, X gr.
Helonin, VI gr.
Asclepin, VI gr.

Make into eighteen pills. One three times daily. We did not see her again until,

June 2.—Mrs. F. M. is nearly well. We continue the pills of May 26, leaving out the Helonin, and replacing it with the same amount of Stillingin. She was discharged cured on the 20th June. Our prescriptions were at first experimental in this case, although we have since learned that the powders of May 12, are valuable when there is not too much irritation.

CASE 3.—PAROTITIS, or Mumps.—W. P., aged seventeen.—Sailor.—Upon QUESTIONING, Wm. says, he does not know that he was exposed where he could take it from some one else. Says he works regularly, whether in or out of port, on a small schooner, which his father runs, on Long Island Sound and around New York. Says the first symptoms of the disease which arrested his attention, were swelling and pain of the parotid glands—that he thought he had taken cold, and lay up one day; he got worse; fever came on; the swelling subsided very much on the third day, but his bowels, and feet, as well as his testicles, were getting very sore; he had not had an operation from the bowels in two days. Upon EXAMINATION, we found the disease to be translated, and of a severe type. Testicles much swollen, intestines very tender, feet swelled, pulse 90

beats in a minute, skin dry, and all the evidences of advancing inflammation. Deeming the case one requiring prompt treatment, we acted according to the indications. We again copy from the record book:

March 20.—Wm. P.—Translated mumps, and inflammation. We ordered for this morning:

℞ Podophyllin, I gr.
Jalapin, I gr.
Caulophyllin, I gr.

Take this immediately in a little syrup.

March 20 (evening.)—W. P. has been operated on briskly. We now order:

℞ Gelsemin, I gr.
Phytolacin, I gr.
Asclepin, I gr.
Hyosciamin, ½ gr.

To be taken immediately. We sat by and noticed the effect. It was torture to us. He was completely prostrated—his pulse sunk to 55 beats in a minute; he was motionless; perspiration broke out, and we patiently waited the reaction. We waited until his pulse began again to rise. We then left orders for him to have one drop of Tinct. Veratrum Viride every hour until we called in the morning.

March 21.—W. P.—Inflammation entirely subdued. Ordered a suspension of the Tinct. Veratrum Viride. Pulse 66 beats in a minute; says he is much better, and easy. We had a small blistering plaster placed on the diseased parotid gland, and ordered:

℞ Hydrastin, X gr.
Asclepin, X gr.
Prunin, X gr.
Senecin, V gr.
Stillingin, VIII gr.

Made into twenty pills, one to be taken every four hours; patient to remain in doors until the pills were consumed.

March 30.—W. P. again at work. Says he feels strong as never. His case has learned us the value of the Gelsemin in local inflammation.

CASE 4.—CHRONIC GASTRITIS, or protracted irritation of the stomach.—We must distinguish between chronic irritation and chronic inflammation of the stomach—between gastritis and dyspepsia. R. A., aged forty-three—carpenter. Upon QUESTIONING, he says he feels a peculiar, empty, gnawing sensation in the region of the stomach, which he cannot refer to hunger; that it is immediately relieved by a glass of brandy, or other alcoholic liquor; that his bowels are sometimes regular, but always sensitive, and apt to be out of order from the slightest irregularities; that he has at all times a rumbling noise in the abdomen, which is caused by the abundant generation of gas; that his sight is being affected; that a hearty meal causes much uneasiness, which gradually wears off as his food is digested; he has sometimes lacinating pain in the epigastric and hypochondriac region; he is exceedingly irritable, and at times much dejected. Upon EXAMINATION, we found the skin very dry and horny; tongue slightly furred; tenderness upon pressure over the stomach; the papillæ of the tongue are pale and flabby; the pulse is rather small and quick; the edges of the tongue were red; the urine high colored; the countenance rather hypochondriac, and every indication that the stomach was laboring under protracted irritation, and which had been, perhaps, carried to the stage of partial ulceration. We thought the case more desperate than the patient did himself. We ordered:

R. Tinct. Gelseminum, XX gtts.
Tinct. Lobelia, XX gtts.
Tinct. Serpentaria, XXX gtts.

Five drops to be taken every two hours, until the medicine was consumed. To have the surface sponged with an alkaline solution; the positive withdrawal of alcoholic drinks, tobacco, and allspices; diet to consist of small quantities of fresh meat, boiled rice, a little molasses, beef broth, &c.; nothing to be taken when warm, and no tea or coffee.

Sept. 19.—R. A. complains much of the sensation of emptiness in the stomach, but says his bowels are not so distended with gas. He is less tender on pressure on the stomach. Ordered:

R. Tinct. Gelseminum, XXX gtts.
Tinct. Sanguinaria, XX gtts.
Tinct. Serpentaria, I 3
Tinct. Spikenard, I 3

Ten drops to be taken every three hours, in sweetened water, and to observe the dietetic rules given on the 15th.

Sept. 28.—R. A. is much improved—is not so tender on pressure on the epigastric region; tongue less red; appetite craves more food; less uneasiness in the region of the stomach; pulse slower and fuller; skin rather moistened. Ordered a continuance of the prescription of the 19th Sept., and to take one of the following pills every morning and evening:

R. Gelsemin, X gr.
Hydrastin, XX gr.
Xanthoxylin, X gr.
Asclepin, XV gr.
Gum Arabic, } aa, Q S.
Simple Syrup, }

Make into thirty pills.

Oct. 15.—R. A. looks like a new man—his skin is moist and pleasant to the touch; tongue natural; very little tenderness in the region of the stomach; no nausea; pulse full, and down to 70 beats in a minute; says he is stronger; wants to eat. We ordered a discontinuation of the drops of Sept. 19, and a continuance of the pills of the 28th Sept., and a due observance of our rules for dieting.

Nov. 1.—R. A. discharged—cured. Chronic gastritis is usually a troublesome complaint, and especially when as much advanced as was the case of R. A. We feel that the cure has been expeditious and highly satisfactory.

CASE 5.—SCARLATINA SEQUALÆ.—G. S. aged ten years. We did not see this case until he had been treated. Of the

course of treatment pursued, during the stage of simple scarlet fever, we cannot speak. This matters little, however, for even with the most skillful care, we shall sometimes be unable to prevent the translation of scarlet fever into some other form of disease. Scarlet fever, when the patient can be placed under favorable external conditions, requires but little of the physician's care. But when it is of the more malignant sort, his most earnest exertions are constantly demanded. On the 3d of May, we were called to see G. S., and copy from our book the notes taken at the time:

G. S. has Anasarca; his parents state that he has been confined with scarlet fever; that soon after he was able to be up, he was caught out in a rain, and probably took cold. His breathing suddenly became hurried, his face flushed, and he went to bed with considerable fever. The next morning he got up, had but little appetite, his tongue was furred with a yellow scum, his breath was fœtid, his eyes yellowish, and in the course of the day, his skin became very hot. "The pulse," said his father, "did not indicate fever." But in the evening his skin began to turn yellowish, and he thought his child was to have jaundice. The next day his joints commenced swelling; the yellowishness of the skin subsided, but the swelling of the joints continued to increase. On the 26th of April, his body and limbs were much swelled. The urine was sensibly diminished, the skin dry, and the child expressed a sense of tightness in the abdomen and chest. Upon EXAMINATION, we found the patient laboring under all the phenomena of positive Anasarca. His lips were pale, the skin had a waxy appearance, the whole system was anæmic; the bowels were constipated, the appetite rather deficient; there was some tenderness around the throat; when pressure was made on the skin, over a joint, it left a sunken pit, which was persistent for some minutes. There seemed to be a degree of irritation of the cutaneous surface, though not extensive enough to require special attention. As there was little or no fever present, we ordered:

℞ Podophyllin, . . I 3.
Sanguinarin, . . I 3.

Asclepin, I 3.
Gum Arabic, } a a. Q. S.
Simple Syrup, }

To make sixty pills, two to be taken every alternate morning, and one every alternate night. The first procured active catharsis; the one given on the night of the 4th, produced only one operation. On the following morning he had two, which again produced active catharsis, and the patient had about a dozen stools. He had no operation from the bowels, from 8 P. M., on the 5th, till 11 P. M. on the 6th, in the evening of which day he had taken one pill. On the morning of the 7th, he had taken two more pills, which not only produced free catharsis through the day, but produced copious diaphoresis and diuresis. On the morning of the 8th, the swelling began to subside. On the evening of the 8th, he had one more pill, but it did not produce an operation, though the diaphoresis still continued. On the morning of the 9th, he had two more pills, which again produced, as we desired, free catharsis. The diaphoresis was astonishing. We ordered the night pill to be discontinued. On the morning of the 11th, the swelling of the joints and dropsical effusion, were not to be noticed. On the following morning, the 12th, we gave two more pills, which operated too harshly, and we were compelled to check their action, which we did by the following:

R. Port Wine, I 3.
Camph. Tinct. Opium, XV gtts.
Essence Peppermint, V gtts.
Essence Cinnamon, V gtts.

Warm water, sugar and nutmeg, to dilute and flavor; this was to be administered, and repeated, if necessary. It, however, was not necessary. May 18th, saw G. S.—he is much improved. He is, however, very weak, and requires tonics; we therefore ordered:

R. Prunin, X gr.
Rumin, X gr.
Xanthoxylin, V. gr.
Euonymin, VII gr.
Cornin, XV. gr.

Make into sixteen powders.
One to be taken every three hours.

May 19th—G. S. came to see us to-day; he looks well, and we pronounced him completely cured.

CASE 6.—CONSUMPTION.—Miss S. R. Aged 23—Milliner and mantua maker. We select this case as one of a type. We shall give two other cases of the same disease, to illustrate other forms. More error has prevailed, both in and out of the profession, in reference to this disease, than almost any other. To argue that this disease is not indirectly hereditary, shows a monstrous desire to indulge party feelings, irrespective of the positive phenomena which are daily occurring in the community, and of which the physician cannot be ignorant. We honor those of our professional brethren who have had the hardihood to critically examine the opinions, which have been advanced by high authority, in reference to disease. Many seem to have thought that because a man's parents were afflicted, and perhaps, died with tuberculosis, he must of necessity be born with tubercles, already formed in the substance of the lungs, which would at some time or other be sure to carry him off. Now, we believe no such thing. But children born of weak or diseased parents must of necessity be less perfect in tissue, muscle, nerve, blood, and every portion of the constitution, than those born of sound, healthy parents. Children are always pre-disposed to the diseases of one or both parents. A child born of consumptive parents, may, by care, proper regimen, in a favorable climate, and a proper occupation, though much pre-disposed to tuberculosis, escape the development of the disease, and reach a ripe old age, leaving a healthy and robust offspring, who will, if they lead a life favorable to the non-development of consumption, attain a yet greater age, and leave a hardier offspring, which will in a few generations wear out the tendency to phthisical affections, and thus destroy the hereditary pre-disposition which had been so strong in grand or great grand parents. [The writer will illustrate this presently.] So, on the other hand, if a child born of sound, healthy, robust parents, who have no hereditary pre-disposition to disease, shall be much exposed, poorly fed, so

as to induce and keep up an anæmic condition for some time; and if, also, the occupation and climate are favorable to the development of consumption, that child will have, in seven out of nine cases, an open development of tuberculous disease, and though he may possibly reach middle age, or even sixty years, he will be sure to die of consumption at last, and leave an offspring as surely diseased and pre-disposed to consumption, as that causes produce effects. And all the medicines in the drug shops, and if wielded by the masters of the art, cannot prevent its development and their death, if the children are exposed to those circumstances of climate, occupation, diet, &c., which are favorable to the phthisical cachexy. This, we hope, will enable the reader to understand our views upon the transmission, from sire to son, of consumption, or any other form of constitutional disease.

[The ancestors of the writer, on the paternal side, were among the earliest and hardiest British colonists who settled in Virginia. So, too, were his maternal ancestry. His maternal ancestors were merchants and traders, who eventually amassed vast wealth, and in the enjoyment of which, they not only disregarded every law of health, but their children, reared to habits of idleness, soon squandered their estates—and were forced into occupations highly unfavorable to health—counting-house exercise. The family became consumptive, and though it soon acquired wealth, it was deficient in constitutional stamina, and rapidly faded away, until now, the writer's mother is the only remaining member of the entire family. But on the paternal side matters were different. They came to America already wealthy—devoted themselves to field-sports and agriculture, and though they have attained no other position than hardy agriculturists, there has never been, so far as is known to the writer, a single case of consumption or scrophula in the direct line of descent, except the writer's father. But to approach yet nearer to the subject. The writer's mother and father when married, were both young, and to appearances, equally healthy. It was known that her family was consumptive, while his was not. They were in comfortable circumstances at the time,

but in a few years, by sudden reverses, they lost most of their property—the writer's father became dissipated, and before he was forty-five died of consumption. He left five children who had received the parental impress of early death. The mother saw her brothers and sisters, and their offspring, drop into the consumptive's grave, one by one, until there were none left! Then her own were taken, one after another, until none were left save the writer and herself. Property came into her hands, and she quit the James river bottoms, and assumed a mode of life much more congenial to health, and in a more favorable climate. The writer, while yet young, sought to gratify his thirst for travel, and before he was fifteen, he had visited some of the most distant nations. His consumptive cough vanished, and he grew up hardy. For six years he was then confined to the life of a University student, which again developed the phenomena of incipient consumption. He had selected medicine as his profession, more with a view to guard his health than otherwise, and he soon found the indications of his skill upon his own person. He believed, as he now does, that medicine, as such, cannot cure doveloped tuberculosis, and that the nostrums of the day only aggravate the disease. It was evident to him that the damp and impure air of London, as well as his irregular habits had much to do in developing the phthisical cachexy, for he had all the indications of a speedy development of the disease. He tried a year's travel on the continent, and through the countries bordering on the Mediterranean to the S. and E. While the disease seemed to be thus held in check, there were no indications that the cachexy was broken up. He then concluded that the change of climate would not alone cure consumption. He resolved to give up his books, studies, high living, and try other means. Accordingly, he returned to the U. S.—went to West Florida, and as a hunter, naturalist, herdsman, and surveyor, he spent five years in its wilderness, in the enjoyment of perfect health, and at the end of the time, free from any symptoms of pulmonary or other constitutional disease. Since that time he has been in the constant exercise of his profession for six years, two years as a lecturer in a medical school, and for four years, closely apply-

ing himself to the work of the present moment—writing. During all this time, he has not had a single symptom of phthisis pulmonalis, and feels no dread of being the victim of hereditary disease. His children are strong and robust, and if he can spend five more years in the forest of West Florida, he hopes to attain the age allotted to man. His mother, whose opportunities for health have been very favorable, is now a stout old lady, whom the writer, at least, hopes to see reach a good old age.]

There is no question, in our minds, but that to die of consumption ought to be regarded as a sort of slow suicide. The most positive evidences of the total eradication of the disease by a change of climate, occupation, exercise, diet, &c., are abundant, and have been pointed out to consumptives, over and again, by men of intelligence and veracity. So, too, have we all seen, and can easily see, hundreds of the finest developed children, and young and middle-aged, and even old persons, swept off with tuberculous disease. We see our factories, manufacturing establishments, under-ground habitations, vitiated tastes, ill-ventilated houses, unphilosophical mode of dressing, irregular habits, &c., sweeping off our brothers, sisters, fathers, mothers, and children, and yet behold the apathy! See how we mourn our loss, and call it a provision of a wise Providence! Who—what sensible man, what conscientious person, dare charge such a crime on the good God, as that of cutting off his fair creatures in the bloom of youth! Let every one who loses a relation with consumption, retire, and as an accountable being, sum up the violations of the laws of Hygiene, and the circumstances which all human experience has proven to be adverse to health, and we should get as the result of the investigation, a list of causes, something like the following:

Houses badly ventilated,
Temperature of our chambers too high,
Parlors sometimes too cold, and sometimes too warm,
Diet too stimulating and too warm,
Too much mental, and too little physical exercise,
Neglect of proper cleanliness,

Wrapping up warm in the house, and exposing the bust in the streets,
Dancing in Swiss muslin, with short sleeves, light slippers, and, uncovered, riding home in the cold air.
Compressing the lungs with lacing and stays,
Thick shoes one day, and thin ones the next,
Sleeping half the day, and carousing two-thirds of the night over fries, stews, and wines,
Living under-ground, in damp cellars,
Eating unwholesome food,
Exposure to the viscissitudes of weather,
General irregular habits,
Want of proper exercise,
Getting married before nature intended,
Want of *proper* amusements—gymnastic exercises, &c.,
Clothing children too warmly,
Being too kind to them,
An unequal distribution of the world's labor,
Neglect of colds,
Taking useless drugs, &c., &c. &c.

Now let every candid reader examine the list, and then ask himself if it is not correctly made out. We think he will agree with us in saying consumption is not the result of the Divine wish—not in obedience to the goodness and justness everywhere marking the laws of the supervision of God's creatures. When one loses a fine girl of fifteen, or sixteen, or twenty, let him not say, nor allow the preacher to say, it was the providence of God to be thus afflicted; but let him—but let all say, and write, in obedience to the dispensation of *oyster-parties, midnight balls, thin shoes, bare neck and shoulders, compressed lungs, &c., &c.* If we would not slander the best of Beings, our Creator and Benefactor, we must stop laying to him such intentions as are expressed in our obituary notices, fashionable sermons, &c. We claim to be Christians—imitators of Christ—but can we find that Christ made even one man sick? Verily, no—but he healed all. Were we writing a general treatise on this or any other disease, we should feel justified in devoting

some space to the disabusement of the public opinion in reference to pathological prophylactics—by which we mean the means to be observed and used in securing our legitimate health. That physician who does most to teach the public to study the laws of health, deserves most from humanity. Let us live as long as we may; death, the natural result of organization, will be upon us as soon as we are prepared for it. In this world, we may all be infinitely happy, and enjoy the bounteous gifts of the good God, if we but place our bodies in proper conditions, surround it with pleasant associations, and exclude those external impressions usually made upon us by a vitiated public taste. Life is not to be recklessly thrown away; even though we do not fear the punishment of the sinner, still do we owe duties and labor, under heavy responsibilities, to our fellowmen. Do we believe in our professions, when we arrange the balances thus:

35 years of fashion, vice, and folly—early death, and an eternity of pain, sorrow, and remorse!	VERSUS	70 years labor, sobriety, plainness, patience, and virtue—ripe old age, and an eternity of untold joys!

Do we, we repeat, believe the book of the New Testament, when we choose the left hand condition, and sell an eternity of joy and peace, for a brief 25, or, at most, 40 years of unnatural, fashionable folly, which, though it may please for the moment, will recoil and sting with endless remorse? How horrible is the thought! Physicians—you who have laid open every texture of this clayey tenement—for to you we may speak—have you not stood and gazed on the throngs of fashion's devotees hurrying by you, rushing into the jaws of eternal death! Have you not speculated, in your own interior self, how long this or that gay creature could escape the mistiness of the dark and lonely grave, where satins and cottons blend in a common brotherhood! Have you not wept in your heart over the fate of those blooming, blushing buddings of womanhood, who, to gratify a foolish fancy, were chattering in the ear of some fop,

and both hurrying on to that death's El Dorado, the consumptive's chamber! For 1825 years, Christianity and fashion have waged a war of conquest—one headed by the crucified Jesus, the other by the fallen angel—over the affections of the human race. Let us ask you which is likely to succeed? Would to God that men and women would count the cost of disobedience and death! Can we not devise some means of giving the poor cellar-dwellers free and fresh air, wholesome food, good clothing, and education? Can we not rob the grave of young subjects? Had we not better teach people how to avoid disease, rather than to cure them?

Let Physicians sternly discountenance any form of dress, not compatible with health; let them tell every patient the cause of the affliction under which he or she may be laboring, and the certain result, and much will be done in reforming society. Physicians ought to be Christians—they alone are conversant with the evidences of design and adaption, written by the Creator on every fibre of the living body. It has been said that medical science, and especially the study of man's physical structure, tended to cultivate infidelity in the ranks of our profession. If we could be made to believe thus, we would cut off our right hand, sooner than pen another line which had for its object the elevation and dignity of the profession. Better for the body to die, than for the soul to perish! Had we to christianize an infidel, we should, first of all, take him to the dissecting room, and show him the construction of this wonderful fabric. Christianity and intelligence, are twin sisters, springing alike from God, and mutually assisting and cherishing each other.

But we have been led off, kind reader, from the subject in hand, and must return to it—but we do assure you, that if you have seen what we have, and it may be, that your memory can even now call up much that is horrible to contemplate, you must feel the truth of all we have said. But the non-medical reader will ask us to develop a plan of curing those evils of society, which thus foster disease. We can do it in two words—OBEY CHRIST!

Miss S. R., a young lady who, in order to live and dress as fashion dictated, was compelled to work six of seven days, and sixteen hours of each day, in a small sewing room, in company with about sixteen others, lost her health—was treated for consumption by several physicians of eminence. A consultation was held, and she was told she must die, as her lungs were extensively diseased. She sent for us, and we copy the results from our book of records:

January 10—Miss S. R., aged twenty-three.—Milliner, &c.—HISTORY.—Says she is the daughter of New Hampshire parents. They are both healthy people, living on her father's small farm. She came to B. to get employment, and seek an establishment in life. She has been three years with her present employer; was possessed of a good share of health when she came there; has been sowing for two dollars and fifty cents per week and her board, for two years, having worked for her board and clothes the first year. Says she sleeps in a room 12 by 14 feet, without fire, and that five other girls sleep in the same room, which has but one window. She is now in that room. The air in it is fœtid and highly unwholesome. She has been coughing about seven months—says, her fare is not such as she can relish; that she sows from early light until 9 o'clock P. M., and frequently until 12 M., when there is much work on hand; that there are seven other girls in the house, all with coughs, four of them sleeping in the same room with her. Upon EXAMINATION, we found the left lung much diseased, and though the lower lobe of the right seemed healthy, it was evident that the upper lobe of the right lung was much irritated. The bronchial tubes were also much irritated. The liver was rather tender, skin dry, urine rather highly colored, much expectoration of a very offensive character, slight hæmoptysis—once or twice this has been rather copious, some diarrhœa, pulse slow, but small, cheeks rather red, eyes sunken, veins apparently too near the surface. "Miss R.," we said, "you have confirmed consumption; we cannot cure you with medicine, we might palliate the disease, but we cannot cure you." The poor creature burst into tears, and wept as though her heart would break. We endea-

vored to quiet her, and finally succeeded. We felt the blood mount to our own face when we told this poor girl she must die! "Dr.," said she, "I am a poor girl—I am a stranger here—I have not a friend to bury me—I have squandered my little earnings to buy clothes, hoping to finally effect a marriage, and thus get a protector and friend. If I was but at home with my old parents, I could give up life! but, O! to die here among strangers, where I shall have not one friend to stand by me and close my eyes in death, is too horrible to bear. O! my dear sir, can you do nothing for me?" Alas, what could we promise? We had no chance of caring for her at home, but we told her we would see what could be done for her.

We called upon a benevolent lady and stated her case; she agreed to give her a room if we would hire a nurse for her. The next day we got her moved into the mansion of Mrs. J. in a large, comfortable room, where every thing could be done that was possible. The excitement of moving her, and her emotions of gratitude, made her very weak, and brought on hæmoptysis, which we checked with the following:

R. Ol. Erigeron, V gtts.
Cypripedin, II grs.
repeated every hour until she was relieved.

Jan. 15.—Miss R. is much stronger, and has constantly improved since her removal; she has no hæmorrhage; we continue our prescription of the 12th, thus modified:

R. Ol. Erigeron, XXX gtts.
Cypripedin, XV gr.
Xanthoxylin, V gr.
Hydrastine, X gr.
Asclepin, X gr.
Leptandrin, X gr.
Simple Syrup, } *a a* Q. S.
Gum Arabic, }
Make into thirty pills, one to be taken every two hours through the day; at night she is to have one of the following pills:

Cypripedin,	I ʒ
Scutellarin,	I ʒ
Xanthoxylin,	XV gr.
Simple Syrup, Gum Arabic,	a a Q. S.

Make into twenty pills.

Jan. 23.—Miss R. is much stronger, coughs less, has more appetite, less diarrhœa, skin is much more moist, rests well, throws off the matter of expectoration much more easily, and is in good spirits. Alas! we fear her hopes are but ill-founded. As she is doing well we continue the same medicines, which are doing much more than we expected. We have written to her parents, but from what she informs us they are too old to visit her.

Feb. 19.—Miss S. R. thinks she is well enough to go home; we have consented, and shall put up, for her use, a sufficiency of the medicines which she has been taking since January 12. We have advised her to go to the East Indies, if she can get a passage on any ship; and if not, to go South, and teach a country school. Though we fear all this may be temporary, we must believe change of climate, and pleasant exercise would be highly beneficial to her.

August 2nd, 1853.—We had a letter from Miss S. R. She is still slowly improving, and has made arrangements for going to South Alabama, as an assistant school-teacher in a small country village.

June 13, 1854.—We this day received from Miss S. R. the following letter:

——, Pike Co., Ala., May 23, 1854.

Dr. ———, My dear sir:

Knowing the interest you feel in my welfare, permit me to detail to you, very briefly, my present condition, &c. But before doing so, I beg to again assure both yourself and Mrs. J., (who was kind enough to take me under her roof, and treat me as a good mother,) of my everlasting gratitude. Believe me, sir, I ask God's blessing on both of you, every night. May it yet be in my power to do for others, as you two have done for me.

S—— is a small place—scarcely a village. The total population would not, perhaps, number one hundred and fifty. I board about one mile and a half from the village, with a kind and pleasant family, where there is a young lady, as wild and "Tomboyish" as I used to be. Well, we are great friends; we are both engaged in the school, which, by the bye, is a small affair. We rise at early dawn, bathe, dress, and before sunrise are hoeing away at our flowers—for you must know we are in the latitude of flowers.—We put on thick, heavy brogans and woolen dresses while in the garden. We are always hungry and anxious to get our breakfast. When this is over, we go out to the barn-yard, and have a turn with the fowls, for a full half hour, and then prepare for school. We then *walk* to the village, carrying our dinner in a small basket. School is opened at nine, and continues in session till twelve, when we have a recess till two, during which time we ramble through the woods, visit the stores in the village, or else engage in juvenile sports with the children. At four, the school is dismissed, and we *walk* home, get a "snack," or, as we would say at home, a "piece," and then look after our flowers for half an hour; then we get fishing poles, hunt our own bait, and walk about a mile to the fish pond, where we enjoy ourselves until sunset, catching little fish, throwing at snakes, and laughing at the antics of frogs. We go home, eat a hearty supper of buttermilk and corn bread, and then practice, and (would you believe it, even I,) sing for the amusement of Mr. and Mrs. F. and their two manly boys. Every Saturday Mr. F. loans us a horse apiece, and we visit his brother's family, seven miles distant. We return in the evening, and on Sunday ride five miles to one church, or nine miles to another. I have not had a cough for eight months, though for two months after I came here, I threw off considerable matter. My left breast is much diminished; my color is good; I can run, walk, work, sing, ride, and, in fact, do anything I ever could. I am engaged to the son of Mr. F.,—but I told him my history, and made him promise to wait until we were both sure I am quite cured. I feel that I am. Those who have not tried it, can know but little of the

buoyancy of this atmosphere, and I would advise all consumptives to come to South Alabama, and bring with them a plenty of the pills you gave me, if they wish to be cured.

Please remember me to your lady and children, and to good Mrs. J. I shall write to Mrs. J. in a few days. Be assured, my dear sir, that you have snatched one poor creature from the grave, and also that she will never forget you in every prayer she is spared to offer.

I am your grateful friend,

S. R——.

Now in all this there is much matter for reflection, and on its rationale, we propose to say a few words. Miss R. is probably restored as far as she can ever be. One lung, from the statement she has made in her letter, is probably almost entirely destroyed, but the other is sound, and, very probably, was not much diseased in the outset. The cure, in this case, depends upon the removal of the causes which gave rise to the disease. The pleasantness of her present situation, and the genial character of the climate—her active exercise and general mode of life, are all favorable to health. But the ruling passion—an establishment in life—will, most probably, be the cause of a relapse; for there must be, in the most pleasant marriages, many things which tend to vex and perplex, and by thus unbalancing the usual tenor of the mind, destroy the harmony of nervous action, and again develop suppressed disease. She thinks she must marry; she *hopes* to escape death from consumption, but alas! we fear her hopes will be ill-founded. It is better to die an *old* unmarried woman, than to die a *young* mother. The plain history of her case, is the history of thousands of once blooming girls, who are every year swept into untimely graves. But we may preach, as it were, on proper ventilation, clothing, temperature, diet, and the due observance of the laws of health, until doom's-day, without getting people to sacrifice fashion to health. There is so much to be said and written on the causes and cure of consumption, that we hardly know where or when to stop. The above case is selected from private practice, and is one upon which the fullest reliance may be placed.

CASE 7.—CONSUMPTION.—W. S. T., merchant, aged 39; says he does not know that he has inherited a tendency to consumption; but that his mother had scrophula. (This diathesis, it will be understood, is very similar to that of consumption, and is as surely transmitted as the tuberculous cachexy. Consumptive cachexy may develop into scrophula, or the scrophulous cachexy may develop true tuberculosis.) HISTORY; says, he was raised a gentleman's son; he came to New York when twenty years of age, sought and gained the position of book-keeper, in a large mercantile house. He was soon a partner, then entire owner, and was soon independently wealthy. He had devoted himself closely, until about three years ago, to his business, and though fragile, was still generally healthy. In 1851 he married a lady, who died of consumption when her first child was eight months of age. This depressed him. He then suffered, in consequence of the failure of a large western house, which circumstance also bore heavily on his mind. Says he began to cough slightly about six months ago. Upon EXAMINATION, we could not say how far the disease had advanced; for while no portion of the lungs seemed to be perfectly healthy, so no portion seemed to be much diseased. We copy from the records of our private journal, the case:

July 9th.—W. S. T. has consumption. As the disease does not seem to be much advanced, we shall order the following:

R. Cypripedin, I 3.
Hydrastine, II 3.
Asclepin, I 3.
Leptandrin, I 3.
Gum Arabic, } *aa*, Q S.
Simple Syrup, }

Make into one hundred and twenty pills, one to be taken morning, noon and evening of each day, until the whole are consumed.

July 21st.—Saw Mr. T., advised him to get two competent and trustworthy men to wind up his business, and himself to go to Australia or California; to travel a year; be cheerful; kick off the cares of business, and break up the cachexy, which

seems to have been induced by too constant confinement. He refuses, and thinks we can cure him and let him attend to his business. We deny it—deny that any man can thus cure him. But his love of gold is stronger than the love of life; and yet, when he knows that he has let slip the golden opportunity, he would give his all to live a few weeks more! How inconsistent is man!

August 11th.—Mr. T. improves little or none. We think none, and rather think him growing worse. We continued his pills of July 9.

Sept. 2.—Mr. T. sent for us in a hurry to-day. He was throwing up much blood. Ordered:

Ol. Erigeron,	V gtt.
Cypripedin,	II gr.
Simple Syrup,	ss. ʒ.

To be repeated, if necessary. We again urged him to go South—to go to Texas, South Alabama, or West Florida, take the rough fare of the country, and thus save himself. He still refuses. Is willing to make a trip to Cuba, and return in the first vessel. We protest that such a trip can be of but little benefit.

Oct. 16.—Mr. T. is too weak to leave his house. He cannot now get to his business, and still refuses to go South.

Oct. 27.—Called to see Mr. T. He is in imminent danger; we have at last convinced him that death is approaching rapidly. He now deeply repents. With the hope of strengthening him, we ordered:

R.	Hydrastine,	I ʒ.
	Xanthoxylin,	I ʒ.
	Cornin,	I ℈.
	Cypripedin,	I ℈.
	Scutellarin,	XV gr.
	Simple Syrup, Flour,	*aa.* Q. S.

To make into sixty lozenges of equal size, which are to be scented and flavored with Ol. Cinnamon, Ol. Nutmeg, and Ol. Peppermint. Of these, he is to take one morning, noon and evening, until consumed.

Nov. 10.—We were sent for in haste to see Mr. T. He is rapidly sinking; he cannot live two days; he speaks in a whisper; says he would give every cent he has in the world to live one week! He might have been cured when we were first called, had he then known the value of life; but it is now too late, and he cannot repair the loss he has sustained.

Nov. 13.—Mr. W. S. T. died yesterday. His fate ought to be a lesson of warning to consumptives. How hard it is to convince men of the realities of death, until it is too late to save them! This case, as is true of many others we have had in the course of our practice, was lost because we could not wean the patient from the pursuit of the dollar! We are well convinced that more than half the cases of consumption could be cured by relying less on drugs, and more on those external circumstances which all human experience has shown to be so conducive to health.

CASE 8.—CONSUMPTION.—V. L., a female child, aged twelve years. HISTORY.—Miss L. was the daughter of mechanics. Both her parents possess vigorous constitutions, are clear of all constitutional disease of any sort, so far as can be detected. They have lost one child with scarlet fever—their first, when about two years of age. Mr. L., the father, was a plain, simple, honest, mechanic. The mother was an ambitious, proud, and fashionable woman, who, because her husband had succeeded well in his business, thought she was warranted in rearing her children as delicate and fashionable as possible. V. L., like other healthy children born of such parents, was a gross, large girl, who, in defiance of partial starving, and all the arts used by the mother to reduce her flesh, still maintained, up to the end of the eleventh year of her age, a vigorous constitution. But fashion is persevering, and the rich mechanic's wife, thought it not only fashionable to have her daughter appear as delicate and fragile as the daughters of her rich neighbors, but she likewise deemed it essential to her proper settlement in life. Accordingly, she confined her to a darkened chamber, for six months, fed her on but little, and that of the most indigestible kind. Winter came on, and she was sometimes taken to evening parties *not half dressed*, the consequence of which was, she

got bronchitis, became weak and rather emaciated. The good (?) mother thought she had accomplished her task! But the child continued to grow weaker, and to stoop a little as she walked. To remedy the stoop, she had a straight-backed chair made, in this the patient was tied, and thus through the day, for some weeks, she was cramped in a most unnatural position. It is proper to state, also, that she had not been clear of tight lacing for twelve months. Upon EXAMINATION when we were called to see her, we found her laboring under developed consumption. Her lungs were extensively diseased in both lower lobes, which had not perhaps been properly inflated for more than a year. She was coughing dreadfully, and expectorating a large quantity of very offensive matter. We thought we saw particles of tuberculous matter. Her bowels were in an irritable condition, more or less diarrhœa, hectic fever, night sweats; in fact she was rapidly sinking. "Madam," said we to the mother, "as painful as it may be to you, we are bound to inform you that medicine cannot save your child—she is dying! and you must not say it is a providence of God—you must blame your own pride. We speak thus, because you have another girl; she is now healthy, and if you keep tight stays off of her, treat her as you, yourself were treated, she will not have consumption." The mother stared at us in amazement! She had not dreamed of the imminent danger of her child. Never shall we forget her self-upbraidings! We told her we could, perhaps, prolong life for a while, but nothing more. We told her to remember what means she had used to make her child delicate, and to pursue a course exactly opposite.

July 22.—Called on V. L. She is more comfortable than she was on yesterday, because she had her stays and lacings removed, and had her appetite satisfied. To brace her up we ordered:

R. Xanthoxylin, X gr.
Geranin, XVIII gr.
Cypripedin, X gr.

To be made into twelve powders; the patient to have one every four hours through the day. To rise early and walk in the garden, yard, or elsewhere, where

she can keep dry. To take just such exercise as she pleases to have.

July 29.—V. L. is no better. We add Hydrastine to her powders of the 22nd, to prevent the night sweats if possible.

August 20.—V. L. grows weaker—we give:

R. Cypripedin, I gr.
Hydrastine, II gr.

every two hours, hoping to brace her up. The lungs are implicated throughout. We have asked for consultation, for though we are satisfied no permanent good can be done, we are willing to try to the last.

August 30th.—Drs. J. and P. met with us to-day, to consult on the case of V. L. They recommend the inhalation of pure oxygen. We object, as the reaction will produce a fatal prostration. It was, however, procured, and the patient made to inhale it. She brightened up for a while. It was tried daily till:

September 9th.—The hectic fever is more severe than we ever saw it in a consumptive patient; she will last but a few days longer.———She died on the 13th Sept., and the parents, preacher, and press called her death a wise dispensation of Providence!

Now, kind reader, if you have had much practice, you too can name many parallel cases; and we know you will pronounce a verdict of truth to what we have written. You, too, will agree with us, that fashion furnishes more victims to consumption, and kindred disease, than all other causes combined. We are but individuals—aye, *an individual*—yet we believe what we have written will do some good, and we earnestly ask you to furnish to some respectable medical journal, your experience in treating consumption—your knowledge of its causes, &c.

CASE 9.—PHRENITIS.—J. R. McD., aged 36,—author and editor of a political paper. HISTORY.—We learned from his friends, and as we partially knew ourselves, he had applied himself, for several years, to the most intense mental labor—broken his rest, dissipated, &c. He possessed a sanguine, delicate temperament, and, very likely, by long and too intense application,

had brought on a highly irritated condition of the brain and investing membranes. By exposure to a draught of cold air, while heated from the effort of speaking, he had got a fever, which assumed a very malignant type, and we were called. Upon EXAMINATION, we found him very much depressed in spirits, ringing in the ears, skin dry and hot, pulse rather small and quick, severe head-ache, face flushed, the carotid arteries throbbing powerfully; there was a curious, anxious expression of the countenance, and a wild stare of the eyes, which were painfully sensitive to the light, and could not be kept open in a strong light. There was much delirium, and even involuntary muscular contraction. We noticed, after a while, that the pulse became harder, and somewhat irregular; the breathing wasslow, and of a sighing character. There was some nausea, but little vomiting, though the patient had made several ineffectual efforts. The bowels were very constipated, and the urinary secretion almost entirely suspended.

As Mr. McD. was a personal friend of ours, we consented to wait on him, during the night. The symptoms rapidly increased, and soon the raging delirium was changed into a drowsiness; the patient commenced to pick at the bed clothes. We were now decided as to the course that ought to be pursued. The patient had phrenitis, or inflammation of the brain and its investing membranes, of a very malignant form. We thought first to open one or both temporal arteries, and thus reduce the patient; but we had seen this fail, and having witnessed the good effects of medicinal agents, in inflammations of different organs, and in general homotonous fevers, we gave him:

R.	Gelsemin,	I gr.
	Veratrin,	½ gr.
	Asclepin,	I gr.
	Podophyllin	I gr.

We sat by and held his pulse, to observe, if possible, the effects the medicines would produce. In about fifteen minutes the pulse began to soften a little, and soon the patient lay motionless. His breathing was less peculiar; the skin moistened; the eyes closed; the pulse, in the course of half an hour, had sunk

to 50 beats in a minute, and the blush, which had previously crimsoned the face, gradually disappeared. The beating of the carotid arteries was no longer perceptible; and, in fact, the patient was completely prostrated. We watched anxiously to see the reaction. In about four hours, the pulse began to rise, and the flush again began to appear in the face. We then gave:

R. Veratrin, $\frac{1}{8}$ gr.
Gelsemin, $\frac{1}{2}$ gr.
Asclepin, I gr.

To be taken immediately, and repeated in four hours, if the conditions warrant it. We returned to our office, requesting to be called if anything of importance occurred. In about an hour, a messenger arrived, and reported the patient dying. When we arrived, we found him much prostrated, and the pulse down to 46 beats in a minute. He was greatly nauseated, and in about half an hour began to vomit. He threw up but little. The medicine he had taken, in the outset, together with the effort of vomiting, produced an operation on the bowels, from which moment we considered him out of danger. As we had now subdued the inflammation, we felt quite certain that we could keep it down, and, at the same time, get the system under the influence of tonics—for which purpose, we ordered:

R. Hydrastin, I ϑ.
Gelsemin, II gr.
Euonymin, X gr.
Prunin, X gr.
Simple Syrup, } a a Q. S.
Gum Arabic, }

To make into twenty pills, one to be given every four hours. At the end of the fourth day, Mr. McD. was able to be up, though we proscribed all mental exercise, and advised him to remain in doors. We attributed the cure, in this case, to both the Gelsemin and Veratrin, but we relied most on the Gelsemin. Many times since, we have seen both agents used for controlling inflammation, and it is

difficult for us to decide which of the two is to be prefered, except that the Gelsemin is quiet and insidious in its action, while the Veratrin always produces more or less nausea, and, very often, free emesis, which is sometimes attended with much retching.

CASE 10.—HEMORRHOIDS.—P. P., aged forty-two.—Printer. It will be borne in mind, that piles may be either internal or external, attended with or without hemorrhage or not so distinguished. This was a case of external piles, unattended with hemorrhage. Whatever tends to engorge the inferior mesenteric veins; which favors irritation in the sphincter muscle, and which is also extended to surrounding tissues may cause piles. The tumors which appear are mere thickenings of the coats of the vessels involved. These tumors soon become filled with blood, which finally so irritates the part, as to induce inflammation. The veins distributed to rectum are numerous, and there may be many tumors, as there are veins. These tumors vary in size from that of a small shot to that of a hen's egg. They may be located at both the upper and lower edge of the sphincter, as well as at intermediate points. When at the upper edge they are generally retained in the bowels for obvious reasons. When these tumors become very large, they are apt to break and discharge a quantity of blood, when we have what is termed bleeding piles. When the inflammation of the tumors proceeds undisturbed, they resolve into abscesses, which may terminate in fistula in ano. Hemorrhoids are not to be confounded with any other disease than polypus, and if we are acquainted with the nature of the latter, this mistake will not be likely to occur.

Piles are caused by a torpid condition of the liver, by constipation, by irritating substances in the rectum, by carthactics which stimulate for a length of time its membranes, or by standing more than usual. We shall get at what ought to be done to remove piles induced by this latter cause, by noticing the case.

HISTORY.—Mr. P. says he has been troubled with piles for about ten years. They are sometimes so severe as to compel him to lay up a few days. He has found but little relief from

the patent nostrums which he has been induced to use. They are always more painful after a day's work than before. Upon examination we found the tumors large, much irritated, and some of them rather hard. He had constipation, and the gastric functions were very languid. The pulse was somewhat excited, the skin rather dry, and frequent headache. We requested him to quit work for ten days, and we thought we should be able to effect a radical cure; though we told him he would bring it on again, unless he was exceedingly cautious, as his business was very favorable to its development. We ordered for internal administration the following:

R. Podophyllin, III gr.
Leptandrin, XII gr.
Hydrastin, XII gr.
Caulophyllin, X gr.
Phytolacin, X gr.
Sanguinarin, VI gr.

To be divided into eighteen powders, two to be taken daily. We then made up an ointment of

R. Capsicin, I gtt.
Xanthoxylin, II gr.
Simple cerate, I gr.

To be applied externally twice a day, for two days. This, as was anticipated, got up considerable irritation, and gave him much pain.

Sept. 20.—Saw P. P. to-day; says he cannot stand the ointment—that he would sooner have piles than to apply the ointment again. [we are of the opinion that we ought to have used some other irritating substance in place of the capsicin.] His pulse is irritated more than we have before seen it. This results from the increased irritation incident to the application of the ointment. We now order:

R. Gelsemin, X gr.
Hyosciamin, X gr.
Hydrastine, XVIII gr.
Simple cerate. I 3

This is to be well mixed, and applied externally every four

hours. The patient is requested to get the finger of a fine kid glove, and having well smeared it while on his finger, to anoint every tumor thoroughly, but to be as gentle as possible, especially in passing the finger up by the sphincter muscle. He is to continue the internal powders given at first.

Sept. 30.—P. P. is greatly improved; the bowels are in a good soluble condition, the tumors but little inflamed, not so sensitive, and much reduced. We ordered the ointment continued, as well as the internal medicines.

Oct. 4.—The hemorrhoids of P. P. are cured. He has returned to his work. We have treated several similar cases with similar results. We think the ointment last used in this case well worthy of the practitioner's notice, for there are few diseases which he will be called to treat oftener than the one under consideration.

CASE 11.—CYNANCHE TRACHIALIS CROUP.—S. M., a little boy six years old. It is useless to say there are many varieties of croup. This case was a very severe attack. Whoever has heard the croup cough, never forgets it, so as to be unable to recognize it when heard again. The croup most common is the *catarrhal*. It arises from bronchial irritation ending generally in inflammation of the entire mucous membrane of the larynx and trachea, and which, if not arrested, will most assuredly soon produce death. The general laws of inflammation preside over this disease, and which must be regarded in the treatment of the disease. The secretions of the parts involved, are almost entirely suspended, the breathing is so difficult, that the blood is not properly oxygenated, which soon causes great distress to the patient. The child is restless, anxious, and implores help, either by motion or expression. However, we need not describe croup—every one who has had much to do with children, knows its peculiarities but too well. The principal question is, how shall we most surely cure it? We copy from our book the case of S. M. as an illustration of this point.

Nov. 3d.—Called to see Mr. M.'s little son S. We found him laboring under a severe attack of croup. The child had

been at play in the rain to-day. He went to bed apparently well. He was attacked at about eleven P. M. When we went in, his head was thrown back, he was coughing the hoarse, dry cough incident to the disease. There was no time to loose, as it seemed not unlikely that he would suffocate. We therefore had his feet put in warm water, and at once administered the following:

Tinct. Lobelia,	XV gtts.
Tinct. Sanguinaria,	VII gtts.
Tinct. Cypripedum,	X gtts.

In a small quantity of warm water. In about ten minutes it produced free emesis. As soon as the vomiting ceased we gave an enema of salt and gruel. Then put warm wet cloths to the neck and over the breast. We then gave:

Tinct. Sanguinaria,	XX gtts.
Tinct. Viburin,	XX gtts.
Tinct. Veratrum,	XX gtts.

Five drops to be taken in sweetened water every hour, or oftener, if it did not keep the child nauseated. About day break he was almost entirely relieved, and we ordered him to have:

Tinct. Capsicum,	X gtts.
Tinct. Myricin,	X gtts.
Hot water,	1 3

This was to be given, and the child wrapped up warmly in bed. The next day he appeared well, and has since had no return of the disease. We have since often employed the same agents, and have seen them employed by other practitioners, with the happiest results. Stimulating nauseants are not admissible in the early stages of the disease, but as soon as the progress of the disorder has been arrested, we may use them with the best results.

It would be an easy matter to continue these cases to a great length, but this is not the proper place, and we have given those we have named, only as illustrations of the value of the concentrated remedies when properly used. The books of the

Clinic Institute, which is collateral to the American Chemical Institute, afford much valuable information, and prove beyond question, that these agents are what they are represented to be. It is contemplated to publish, at a future time, and in a more available form, the most important cases treated at this establishment.

We have been too long conversant with attempts to introduce new remedies, not to foresee the caution which will be manifested by the profession in reference to these active and concentrated remedies of which we have been treating. And it is well for humanity that physician's are skeptical against new remedies. We are thus guarded against much charlatany. Were we to adopt the mere assertions of men as positive evidence, without inquiring for ourselves, the correctness of the principles and facts brought forward to sustain them, our noble art would soon be sunken to a mere money-making vehicle, and thus the profession would be destroyed. We hope that we have not anywhere, in the course of these pages, shown more dogmatism than was positively necessary. We desire to have the profession test these medicines, and adopt them only so far as they prove themselves reliable. But we beg to caution physicians against pronouncing hasty judgments on them, whether favorable or unfavorable, because in studying the value of a medical agent we are not justified in saying it is thus or so, until we have given it a thorough trial in a number of diseases, the causes and pathology of which we well understand.

Many, also, are cautious about reading new works on new subjects, lest they get their minds poisoned by the insidious and wary tactics of downright empiricism. Such cannot be the case with this work; for our position in the profession, our general acquaintance with, and participation in the literature—historical and political—of our country; the known respectability and admitted orthodoxy of our medical alma mater; our extensive observation in the hospitals of the different kingdoms of Great Britain and Southern Europe; our extensive acquaintance with the profession; the success of our general practice—all, we hope, will entitle us to the respect of our professional brethren,

from whom we have ever received more marks of kindness than we deserved. If we have, in any instance, departed from established rules and principles, we can assure the profession that we have been conscientious in the deviation. We have always endeavored to maintain our identy as a man, rather than to assume the responsibility of becoming a party exponent; and we earnestly hope that our own sins may be charged upon us, and not upon any sect or party—for we know none such. As before declared, true medical science, like truth, is one and indivisible! All truths must harmonize; what is true in this work, has always been *true*, and must continue to be *true* while causes produce effects.

A few more remarks explanatory, and we shall close this treatise, the chief object of which is to call the attention of the profession to the real value of the concentrated, alkaloid and resinoid preparations of our indigenous and foreign medical plants—but chiefly those of our own country. We have endeavored to do this, in a spirit of candor and liberality. How far we have succeeded, is for the profession to determine. We ask for the opinion of such only as are qualified to judge, but we do not fear the sapient criticisms which almost always follow the introduction of a new work. We have had some experience in this way—the sweeping cuts of the critic's pen used to annoy us; but now, since we have had more experience, we fear only the adverse opinions of gentlemen every way qualified to sit in judgment on a medical essay. An author is always upheld by his sense of correct motives, if he has been actuated by such; and, though he may writhe for a while under the lash of criticism, he will be consoled by the consciousness that time will dissipate prejudice, and what he has written, if true, will as surely be received by the profession, at last, in a proper spirit, as that truth is the guiding star of science.

The writer hopes, in bringing out future editions of this work, to add, in each, descriptions of all newly-discovered remedies or principles, made after this edition goes to press. It is impossible to say how many of these new agents we shall have to fill our already tolerably full list; but, from what has been accom-

plished, there seems to be just reason to suppose it will be our good fortune to chronicle the discovery of many new agents, as well as to add much to what we have already written. It will be perceived that we have not treated extensively of the alkaloid properties of plants; and it may not be improper to state here why this is so. We have already refered to the necessity of maintaining the sanctity of nature's combinations; and in order to do this, it is often, and, indeed, always necessary to unite the alkaloid and resinoid properties of plants. These are not got out by the same process, nor do we always find it possible to separate the alkaloid in sufficient quantity to make it a question of any importance whether it be united or not. But when this can be done, the chemists of the American Chemical Institute generally unite the two principles; and give the alkaloid or resinoid name to the preparation, as either may predominate. The alkaloid of Sanguinaria canadensis, is now united with the resinoid, whereas it was formerly the custom to prepare and dispense the two principles separately. The resinoid is by far the most abundant, and hence we get the name Sanguinarin. In other cases, as the Hydrastis canadensis, we find that the alkaloid and resinoid are nearly equal, as far as regards the quantity; but experience has taught us that the alkaloid is best in some instances, while the resinoid is preferable in others; for example, both are positive tonics—the one as an astringent tonic, and the other as a laxative tonic. Now, as we often require tonics of both kinds, it has been deemed best to keep the resinoid and alkaloid separated, since the physician can at pleasure combine them. This was the plan formerly pursued in regard to the Sanguinarin, but we have had sufficient reasons to believe the alkaloid less valuable, and too irritating to be retained as a distinct principle, hence the two principles have been united, thus greatly increasing the value of both. The same is true of Hyosciamin and Hyosciamine, and several other agents.

Many of these agents—i. e., all of an oleaginous character, of which there are only a few, may be easily made into tinctures by 95 per cent alcohol. The resinoids and alkaloids ought to

be always given in the form of either powders, in a little syrup, or some such vehicle, or pills administered in the usual way. It will be understood, by those who have read the first part of this work, that we are greatly in favor of diluting all agents intended for internal administration. The reason for this has been already given in Part I. This dilution may be effected whether we are administering the resinoids, alkaloids, oils, or tinctures. In the event that we desire to give a *powdered* preparation, we may greatly increase the efficacy of the agent by rubbing it up with sugar and thus separating the particles. If it be an oil we wish to administer, we have only to make it into a tincture, and then dilute with water, or if it be a tincture already, we shall be able, by the same means, (by adding water,) to dilute. In all cases where the agent is of an irritating nature, we may effect more, and avoid increasing the irritability of the mucous membrane of the mouth and throat, by giving the agent suspended in some mucilaginous preparation, e. g.: Gum Arabic, Slippery Elm, Marsh Mallow, &c. Diuretics should be always assisted by plentiful draughts of stimulating teas. The same is true of diaphoretics. Many physicians are less successful than they ought to be in their practice, because they are not sufficiently careful in the chosen mode of dispensing their medicines. This defect can be easily remedied by a little reflection as regards the character of the impression which ought to be made, and the nature of the agent to be employed.

We have already often refered to the science of combining medical agents. Every reader will see at once that we cannot treat, in brief, of such a subject. An essay which should dispassionately discuss the principles and rationale of proper and general combination, would embrace the entire field of medical inquiry. None but those who have paid proper and special attention to the subject, ought to attempt to set in judgment or the rationality of combinations, which may occur in any book. Chemistry does not afford a proper test of their correctness, for while *it* will not admit the administration of incompatibles, *it* (chemistry) cannot tell why stimulants and sedatives are therapuetically incompatible. Perhaps the easiest way to get at the

importance of a thorough comprehension of this subject, is to consider our remarks in the first part of this work, on revellents. If there is any such thing as a manifestation of special affinity of medicinal agents for certain organs or tissues, then there must be a rationale of combination. We hope yet to see some good work on this subject. There are many physicians every way qualified to write such a book, and while we believe such a work would do much for the science of positive medication, we must most earnestly hope to see it brought out. The requirements of science, it seems to us, plainly demand such a work. We care not who produces it, or from what source it may emenate; if it be well prepared, we shall hail its appearance with pleasure, and we trust others will assist us in calling on our American writers to produce it. We must have an American identity in our literature as well as in other things.

Our labors on this work are now closed, for the present edition, at least, and we beg to return our sincere thanks to all who have in any way assisted us in developing the subject of which we have been treating. And of those who have read the work, we respectfully ask for any items of interest which may be interesting to the general profession. These items we shall hope to place on proper record in the next edition. What we have penned has been written with an earnest desire to promote the dignity of our science, and the interest of our common humanity; if we have effected even a little, we shall not regret our toil.

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